MICROFILM

START OF ROLL

ROLL NO.

180

construction

contracts

Con't.

FREMONT PLANT

CHANGE ORDER
PACIFIC UNION METAL DIVISION

C/O 1103

THE UNION METAL MANUFACTURING CO.

6850 STEVENSON BLVD. • BOX 1667 – FREMONT, CALIF. 94538 • TEL. (415) 657-8000

TILLMAN-BOOTH

INVOICE NO.	DATE	OUR ORDER NUMBER
	1975 DEC 9 AM 8 45	F - 5704

SOLD TO

TILLMAN & BOOTH, INC.
P. O. Box 1148
Eugene, Oregon 97401

CUSTOMER'S ORDER NUMBER	DATE	MARK
CE68016	9/10/75	OSHDB145

SALES AREA	TERMS
10	TERMS: NET 30 DAYS – NO DISCOUNT *INTEREST CHARGED ON PAST DUE ACCOUNTS*

SHIP TO

HANSEN ELECTRIC COMPANY
Highway 18 & FRS 106
Sheridan, Oregon

☒ PREPAY AND CHARGE ☐ PREPAY AND ALLOW ☐ FREIGHT COLLECT ☐ F.A.S. HARBOR

PLEASE REMIT TO:
P.O. BOX 39127
SAN FRANCISCO, CALIF.
94139

SHIPPED FROM	DEL TICKET NO.
DATE SHIPPED	**VIA**

ITEM	QUAN.	DESCRIPTION	CODE	NET EACH	TOTAL
		PLEASE CHANGE DESCRIPTION TO READ:			
1	4	LA10287S466-15 PUMCO Galv. Poles	500 06		3,910.00
2	1	LA10287S470-15 PUMCO Galv. Pole	500 06	+	171.00

ORDER ACKNOWLEDGMENT

NOTICE
Our quotation is an estimate only, subject to continuation of our suppliers delivery schedules

PRICING ON THIS ORDER IS SUBJECT TO ESCALATION AS STATED IN THE TERMS OF OUR QUOTATION.

THE UNION METAL MFG. CO.

F.O.B. P/S

SHIPMENT REQUESTED | PRELIM FACT SCHEDULE

IMPORTANT – When goods arrive, check with packing list at once. If shortage or damage is discovered, notify carrier immediately and have discrepancy noted on carrier's delivery receipt. No claims will be recognized by carrier unless reported within 15 days. Shipper's responsibility ceases F.O.B. point of shipment. Returned goods will not be accepted by shipper except by prior written agreement. We hereby certify that these goods and/or services were produced in compliance with all applicable requirements of the Fair Labor Standards Act, as amended, and all regulations thereunder.

PACIFIC UNION METAL DIVISION,
THE UNION METAL MFG. CO.

CUSTOMER

TILLMAN & BOOTH, INC.

WHOLESALE DISTRIBUTORS

(503) 267-2145 1135 S. BROADWAY POST OFFICE BOX 1135 COOS BAY, OREGON 97420

REPLY LETTER

TO Union Metal Man Co.

FROM Bobby Greaves

OFFICE Tigard, Oregon

OFFICE Coos Bay, Oregon

SUBJECT Our PO #CE68016

DATE 12 \ 10 \ 1975

MESSAGE

Please release for immediate shipment anchor bolts and templates for our order #CE68016. Thank you.

Bobby

Union METAL
MANUFACTURING COMPANY
PACIFIC UNION METAL DIVISION
FREMONT, CA.

This acknowledges receipt of your Purchase Order No. CE68016

Our File No. BB-5704 has been assigned for future reference.

Your receipt of the acknowledgment copy of Union Metal's Sales Order constitutes acceptance of your Purchase Order, as stated in our quotation terms.

TILLMAN BOOTH
1975 DEC 11 AM

Date 12/5/75

Order Service Dept.
By
Fremont, Ca.
(415) 657-8000

INVOICE

THE Union metal MANUFACTURING COMPANY

BOX 8530, CANTON, OHIO 44711 • TELEPHONE (216) 454-6111

January 12, 1976

Tillman & Booth, Inc.
P.O. Box 1148
Eugene, OR 97401

Attention Mr. Dave Lancaster

Gentlemen:

Your CE 68016
Union Metal D-68806

With regard to our phone conversation, the estimated shipment on the subject order will be the week of February 9, 1976. Due to the order not being processed until December 2, 1975, and our being closed down for the last two weeks of the year, we will be unable to ship prior to that date.

The parts for these bases are of a special nature and have to be made from scratch. We will try to push for the earliest possible shipment.

Very truly yours,

Carl Schmidt

C. E. Schmidt
Order Service Department

CES:sw

CC: R. J. Blair

FREMONT PLANT

INVOICE

PACIFIC UNION METAL DIVISION

THE UNION METAL MANUFACTURING CO.

6850 STEVENSON BLVD. • BOX 1667 – FREMONT, CALIF. 94538 • TEL. (415) 657-8000

PUMCO Marbelite

INVOICE NO.	INVOICE DATE	OUR ORDER NUMBER
1-4078	1-21-76	F - 5704 c/o 1103

SOLD TO

TILLMAN & BOOTH, INC.
P.O. Box 1148
Eugene, Oregon 97401

CUSTOMER'S ORDER NUMBER	DATE	MARK
CE68016	9-10-75	OSHD8145

SALES AREA	TERMS
10	TERMS: NET 30 DAYS - NO DISCOUNT *INTEREST CHARGED ON PAST DUE ACCOUNTS*

SHIP TO

HANSEN ELECTRIC COMPANY
Hwy 18 & FRS 106
Sheridan, Ore

[XXX] PREPAY AND CHARGE [ ] PREPAY AND ALLOW [ ] FREIGHT COLLECT [ ] F.A.S. HARBOR

SHIPPED FROM	DEL TICKET NO.
FREMONT	12390
DATE SHIPPED	VIA
1-16-76	PIE

ITEM	QUAN.	DESCRIPTION	CODE	NET EACH	TOTAL
	5 Sets (15 pcs)	3916 PUMCO Galv Anchor Rod Assy	500 06	96.00	480.00

F.O.B. P/S PARTIAL

IMPORTANT – When goods arrive, check with packing list at once. If shortage or damage is discovered, notify carrier immediately and have noted on carrier's delivery receipt. No claims will be recognized by carrier unless reported within 15 days. Shipper's ceases F.O.B. point of shipment. Returned goods will not be accepted by shipper except by prior written agreement. We hereby certify and, or services were produced in compliance with all applicable requirements of the Fair Labor Standards Act, as amended, and all reg

PACIFIC UNION METAL DIVISION,
THE UNION METAL MFG. CO.

DUNS 00-580-4679

HANSEN ELECTRIC COMPANY

News Press, Coos Bay, Oregon

P. O. BOX 1228, 1127 SOUTH BROADWAY, COOS BAY, OREGON 97420
PHONE (503) 267-2143

TO Tillman & Booth

SHIP TO Highway 18 & FRS 106
Sheridan, Oregon
OSHD Cont

PLEASE ENTER OUR ORDER FOR GOODS LISTED BELOW:

DATE REQUIRED	SHIP VIA	ROUTING	TERMS	ORDER DATE
Bolts - 3/24/75 Poles - 10/30/75		FOB Shipping Point	PUMCO Quote NW 75-0204-B	8/8/75

✓	Qty. Ord.	Qty. Rec.	UNIT	DESCRIPTION	PRICE	UNIT
	3		EA	Galv Poles 30' Mt Ht 6' Arm Slip Base		
	2		"	" " 35' " " 15' " " "		
	5		"	Type 1 Transformer Arm Transformer Size		
				with .156 Min Wall Thickness		
				Lot	$4516.00	
				Hold for Release		
				Please supply 8 copies of submittal data		
				Send certification of compliance with OSHD specs with anchor bolts		
				2nd Week of Feb		
				Shultz		
				1,0684		

OUR ORDER NO. MUST APPEAR ON ALL RELATED PACKAGES AND FORMS • PLEASE ACKNOWLEDGE IMMEDIATELY AND STATE WHEN YOU WILL SHIP ORDER

Please send ..... copies of your invoice with original Bill of lading

ORDER NO. No 2542 - 9975 - 10

Ronald D Hansen
PURCHASING AGENT

PURCHASE ORDER

FREMONT PLANT

INVOICE

PACIFIC UNION METAL DIVISION

THE UNION METAL MANUFACTURING CO.

6850 STEVENSON BLVD. • BOX 1667 – FREMONT, CALIF. 94538 • TEL. (415) 657-8000

PUMCO Marketed

INVOICE NO	INVOICE DATE	OUR ORDER NUMBER
1-4078	1-21-76	F- 5704 c/o 1103

SOLD TO

TILLMAN & BOOTH, INC.
P.O. Box 1148
Eugene, Oregon 97401

CUSTOMER'S ORDER NUMBER	DATE	MARK
CE68016	9-10-75	OSHD8145

SALES AREA 10

TERMS: NET 30 DAYS - NO DISCOUNT
INTEREST CHARGED ON PAST DUE ACCOUNTS

SHIP TO

HANSEN ELECTRIC COMPANY
Hwy 18 & FRS 106
Sheridan, Ore

XXX PREPAY AND CHARGE ☐ PREPAY AND ALLOW ☐ FREIGHT COLLECT ☐ F.A.S. HARBOR

SHIPPED FROM	DEL. TICKET NO.
FREMONT	12390
DATE SHIPPED	VIA
1-16-76	PIE

ITEM	QUAN.	DESCRIPTION	CODE	PRICE	TOTAL
	5 Sets (15 pcs)	3916 PUMCO Galv Anchor Rod Assy	500 06	96.00	480.00

F.O.B. P/S PARTIAL

IMPORTANT – When goods arrive, check with packing list at once. If shortage or damage is discovered, notify carrier immediately and have discrepancy noted on carrier's delivery receipt. No claims will be recognized for errors after acceptance of goods. Shipper's responsibility ceases F.O.B. point of shipment. Returned goods will not be accepted or charged except by prior agreement. We hereby certify that these goods and/or services were produced in compliance with all applicable requirements of the Fair Labor Standards Act, as amended, and all regulations thereunder.

PACIFIC UNION METAL DIVISION

TILLMAN & BOOTH, INC.

WHOLESALE DISTRIBUTORS

(503) 343-7701 215 WEST 5th AVENUE POST OFFICE BOX 1148 EUGENE, OREGON 97401

REPLY LETTER

TO Union Metal Man. Co OFFICE Tigard, Ore.

FROM Bobby Greaves OFFICE Coos Bay, Oregon

SUBJECT Our PO #CE68016 DATE 11-\ 13 \ 1975

MESSAGE

Please release for immediate shipment items on our PO #CE 68016.

Thank you,

Bobby

CB

Union METAL MANUFACTURING COMPANY

Bobby

This acknowledges receipt of your Purchase Order No. CE 68016

Our File No. 68806 has been assigned for future reference.

Your receipt of the acknowledgment copy of Union Metal's Sales Order constitutes acceptance of your Purchase Order, as stated in our quotation terms.

Order Service Dept.
By
Canton, Ohio
(216) 454-6111

Date 9.19

THE UNION METAL MANUFACTURING CO.

Quality Products Since 1906

CANTON, OHIO 44705 • AREA CODE 216 • TELEPHONE 454-6111

May 12, 1976

PLEASE REPLY TO:
ROOM 108 VILLAGE SQUARE OFFICES
12750 S.W. PACIFIC HIGHWAY
TIGARD, OREGON 97223
TELEPHONE: (503) 639-8112
TELEX: 36-0469

Tillmen and Booth
1135 S. Broadway
Coos Bay, Oregon 97420

Attention: T. Ryan

Subject: O.S.H.D. 8145
Your CE-68016
Our F-5704
Sheridan, Oregon

Dear Mr. Ryan:

This letter is in response to a telephone conversation with Mr. Hansen, of Hansen Electric, concerning late delivery of the material for this order.

This project was originally bid in June of 1975, and the order was received in September of 1975, with a requirement for submittal drawings, which were promptly mailed September 22, 1975, from this office. Your release and approved drawings were received November 14, 1975, at this office, at which time they were forwarded to the factory for manufacture and shipment.

However, on November 21, 1975, I was notified that all luminaire arms were to be changed to a length of 15' and all pole shaft lengths were revised, thereby delaying manufacture until such time as these changes could be incorporated.

Due to paper work involved in revising this job, a clean release was not received at the factory until December of 1975, since the holidays and a two week vacation-inventory factory shutdown falls in December, thereby delaying all shipments by that time. Material shipment dates of February 26, 1976 and March 1, 1976 were the best possible due to the manufacturing load at that time.

December when?
JB
Was rec'd by Gilman Booth Dec 9

Very truly yours,

R. J. Blair
Sales Representative
Northwest District

RJB:gh
cc: R. Hansen - Hansen Electric
Gresham, Oregon

HANSEN ELECTRIC COMPANY
P. O. Box ~~1135~~ 1127 S. Broadway
COOS BAY, OREGON 97420

Phone (503) 267-2143 TILLMAN-BOOTH

LETTER OF TRANSMITTAL

DATE 11/4/75 JOB NO 9975

ATTENTION

RE OSHD CONTRACT 8248
McMINNVILLE, WILLAMINA,
SHEDDEN SMEDLEY PROJECTS

TO TILLMAN & BOOTH
P.O. Box 1148
EUGENE, ORE. 97401

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☒ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	9/5/75		I-T-E DWG NO 19-5A-47373-1 (RESUBMIT)
1	12/13/63		NUART " " 2251-R-3
1	4/6/72		" " " 2251-GS-R3
1	3/12/73		UNION METAL DWG NO LA-10287
1	7/29/71		" " " " IA-A2850-G4

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☒ Resubmit 8 copies for approval
☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS RESUBMIT ITE DWG NO 19-5A-47373-1
IN 8 COPIES.

COPY TO _____

SIGNED: Russell G. Hansen

Form 2457 — New England Business Service, Inc., Townsend, Mass

If enclosures are not as noted, kindly notify us at once.

THE UNION METAL MANUFACTURING CO.

Quality Products Since 1906

BOX 8530, CANTON, OHIO 44711 • TELEPHONE (216) 454-6111

PLEASE REPLY TO:
ROOM 108 VILLAGE SQUARE OFFICES
12750 S.W. PACIFIC HIGHWAY
TIGARD, OREGON 97223
TELEPHONE: (503) 639-8112
TELEX: 36-0469

May 5, 1976

Tillman and Booth
1135 S. Broadway
Coos Bay, Oregon 97420

Attention: T. U. Ryan

Subject: O.S.H.D. 8145
Your CE 68016
Our F-5704
Sheridan, Oregon

Dear Mr. Ryan:

This letter has reference to our telephone conversation of May 3, 1976, concerning delivery of material for the subject order. As noted in Mr. Schmidt's letter of January 12, 1976, material was to be ready for shipment on February 9 and, in fact, the material was ready close to that date. However, there were several problems with finding a carrier for pickup of the material and no carrier could be found to pick it up until March 1, 1976, at which time the material was shipped.

We hope that this will alleviate any problems you may have.

Very truly yours,

Robert J. Blair

R. J. Blair
Sales Representative
Northwest District

RJB:gh

53

July 14, 1975

Tompsett-Hogan Mfg. Co.
Route 1, Box 464
Madras, Oregon 97741

ATTN: Richard Hogan

RE: McMinnville, Willamina, Sheridan
Area Safety Project
Contract #8248

Gentlemen:

Enclosed is our purchase order #3484 for the sign structures on the above referenced project. We are also enclosing a copy of our material quotation for the pipe we discussed for the cantilever and sign bridge columns for these structures. Will you please send us your purchase order for this pipe? Also enclosed is a copy of your pooposal form.

You will note our delivery requirements are shown on our purchase order. Will you please let us know if there should be any reason you cannot supply anchor bolts and breakaway sign post stubs by August 15, 1975.

Thank you very much.

Sincerely,

J.B. Irving
President

JBI/sls

Enclosures

PURCHASE ORDER

CORAL CORPORATION

135 E. HEREFORD STREET • P. O. BOX 258
GLADSTONE, OREGON 97027
PHONE (503) 655-6361

No. 3484

THIS NUMBER MUST APPEAR ON INVOICES, B/L, BUNDLES, CASES PACKING LISTS AND CORRESPONDENCE.

Tompsett-Hogan Mfg. Co.
Route 1, Box 464
Madras, Oregon 97741

ATTN: Richard Hogan 475-3052

DATE: July 11, 1975
DATE WANTED: See Below
TERMS: Payment within10 days receipt of state estimate
F.O.B.: Jobsite
SHIP VIA: Truck

SHIP TO: Coral Corporation, jobsite near McMinnville, Oregon

QUANTITY	DESCRIPTION	PRICE
	Sign structures in accordance with Oregon State Highway Department Plans and Specifications for the McMinnville, Willimina, Sheridan Area Safety Project. OSHD Contract #8248.	
Item 29	Cantilever Sign Structure	L.S.
Item 30	Sign Bridge	L.S.
Item 31	Breakaway Sign Posts	LSS.
	Delivery - Anchor Bolts & BSP Stubs - By August 15, 1975 Cantilevers - By September 30, 1975 BSP - By September 30, 1975. Sign Bridge - By October 31, 1975	
	1. Tompsett-Hogan Mfg. Co. to purchase pipe materials from Coral Corporation in accordance with attached quotation.	
	2. Drawings to be submitted for approval through Coral Corporation.	
	3. Tompsett-Hogan Mfg. Co. to supply 100% performance and payment bond. Coral Corporation to pay the cost of such bond.	

G/L A/C 5202, Contract #8248

☒ CONFIRMATION OF VERBAL ORDER
DO NOT DUPLICATE

CERTIFICATION REQUIRED As Follows:
☐ Copy with shipment for Resident Engineer
☐ Copy mailed to Mr. Ed Ball - OSHD P.O. Box 82157, Portland, OR 97282
☐ Copy mailed to Mr. Roy Moyer - WSDH 512 Dexter Ave. N., Seattle, WA 98109
☐ 2 Copies mailed to Coast Corporation, P.O. Box 258, Gladstone, OR 97027

☒ OSHD Inspection Report Required.
☐ Mill test certificate of heats analysis & physical properties required. Send with shipment.
☐ Steels made by Basic-Oxygen Process or Electric Furnace Quality Not Permitted.
☐ Foreign Steel is not Acceptable.
☐ Suitable for Galvanizing.

CC: Jay Minor

BY O B Hansen/ala

FORM 1300, REGENT FORMS, PENNSAUKEN, N.J. 08109

TOMPSETT-HOGAN MFG CO.

ROUTE 1, BOX 464 MADRAS, OREGON 97741 PHONE (503) 475-3052

April 2, 1976 75-169

Coral Corporation
P.O. Box 258
Gladstone, Oregon 97027

Attn: Jay Minor

Subject: State Contract #8248
Sign Bridge

Gentlemen:

We respectfully submit information pertaining to items beyond our control during the process of work.

(A) Shop Drawings

(1)	Submitted to Coral Corporation	8/28/75
(2)	Arrived at State - Salem	9/4/75
(3)	Received at THMC - Madras	9/26/75

Total days for approval 22

Br. recd. stamp shows this & "Approved as Noted" 9-5.

(B) Excess Shop Time and Galvanizing Time were lost by size of sign bridge structure that did not fit the acid and hot dip galvanizing tank. Dipping corners (4 times) and pre-dipping diagonals in sign truss were very time consuming procedures.

(C) Time at Galvanizers Plant

Shipping date	1/16/76
Delivery to Jobsite date	2/2/76
Time at Plant	17 Days

We believe we should not be penalized liquidating damages for this project because of 39 days lost beyond our control.

TOMPSETT-HOGAN MFG. CO.

RICHARD HOGAN, OWNER

Encl. Transmittal to Coral Corporation on 8/28/75
Corner blocks of approved drawings received by THMC on 9/26/75

RH/dh

File Copy

TOMPSETT-HOGAN MFG. CO.

MADRAS, OREGON 97741 PHONE (503) 475-3052

DRAWING TRANSMITTAL SHEET

CORAL CORP. Date 8/28/75

GRADSTONE, ONE Subject: CONTRACT 8248

BOX 258 E. HEREFORD ST

Our Job No: 75-169 Your Order No.

Gentlemen:

We are sending to you

✓ Herewith 21 Print (s)

Under Separate Cover

Each of the following Drawings

Which Are ✓ For Approval. Please Return One Copy With Indicated Approval or Corrections.

For Final Approval

For Obtaining Information

For Files & Distribution

For Your Use

7- THMC 169-7

7- do 169-8

7- do 169-10

ABOVE FOR SIGN BRIDGE 4X4X104'SPAN McMINNVILLE SHERIDAN

Please Rush - Please Rush.

Very Truly Yours,

TOMPSETT-HOGAN MFG. CO.

C Hogan

Custom Machinery & Steel Fabricators

MINT HARVESTING EQUIPMENT • TRAILERS • SHEET METAL WORK • BLOWPIPE • FANS • CYCLONES
SPOUTING • CHUTES • MISC. IRON • SCREW CONVEYORS • BELT CONVEYORS • BUCKET ELEVATORS • PLATE WORK

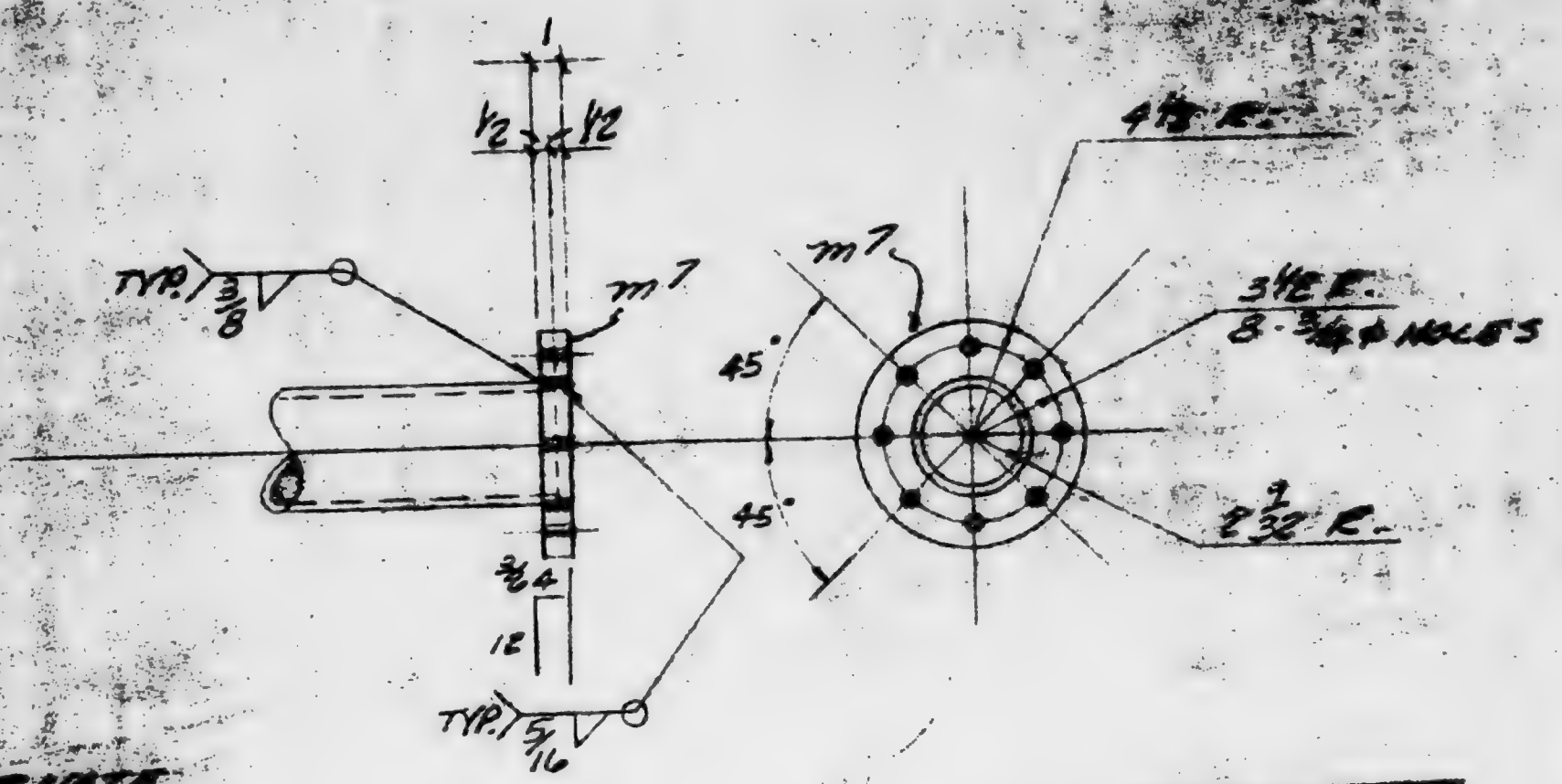
☐ APPROVED WITHOUT CHANGE
☒ APPROVED AS NOTED
☐ RETURNED FOR CORRECTION

SEP 5 1975

OREGON STATE HIGHWAY COMMISSION

Subject to Section 105.02 of the Standard Specifications for Highway Construction

BY R L. Malcom



ALTERNATE
OF INTERNE
EA. BAY

DETAIL - 1
(TYPICAL END R.)

RECEIVED
SEP 4 1975
BRIDGE SECTION

75-169

RECEIVED
THMC
SEP 26 1975

TOMPSETT HOGAN MFG. CO.

SCALE: NONE	APPROVED BY:	DRAWN BY: NV.
DATE: JULY 75		

McMINNVILLE, WILLAMINA-SHERIDAN AREA
O.S.H.D. CONT. # 8248

	GO	2				
	U8	2				
	V8	2				
	Z8	4				
	AA8	2				
			HARDWARE			
		8	1/4 x 20 R.H.M.S.	O	O 3/4	BRASS

APPROVED WITHOUT CHANGE
APPROVED AS NOTED
RETURNED FOR CORRECTION

SEP 5 1975

OREGON STATE HIGHWAY COMMISSION
Subject to Section 105.02 of the Standard Specifications for Highway Construction
BY R.L. Malcom

RECEIVED
SEP 4 1975
BRIDGE SECTION

RECEIVED
SEP 26 1975

75-169

HOT DIP GALV. AFTER FABRICATION. VENT HOLE SIZES & (TYP) NOTE

TOMPSETT HOGAN MFG. CO.
RT. 1 BOX 464, MADRAS, OREGON

SCALE: NONE	APPROVED BY:	DRAWN BY: NV.
DATE: JULY 75		REVISED

McMINNVILLE, WILLAMINA, SHERIDAN AREA
AND EAST 2 SPAN

☐ APPROVED WITHOUT CHANGE

☒ APPROVED AS NOTED

☐ RETURNED FOR CORRECTION

SEP 5 1975

OREGON STATE HIGHWAY COMMISSION

Subject to Section 105.02 of the Standard Specifications for Highway Construction

BY R. P. Malcom

RECEIVED
SEP 4 1975
BRIDGE SECTION

RECEIVED

SEP 26 1975

Hot Dip Galv.
After Fabrication

75-169

TOMPSETT HOGAN MFG. CO.

SCALE: NTS	APPROVED BY: ACCULINE DET. CORP.	DRAWN BY C.G.
DATE: JULY-75		REVISED

McMINNVILLE, WILLAMINA, SHERIDAN AREA
O.S.H.C. CONTR. #8248

PHONE 655-6351
135 EAST HEREFORD STREET

Coral Corporation

P. O. BOX 258
GLADSTONE, OREGON 97027

August 26, 1976

Oregon State Highway Division
P.O. Box 30
Salem, OR 97310

ATTN: C.V. Lehman
Resident Engineer

RE: McMinnville, Willimina Area
Safety Project
Contract #8248

SUBJECT: Request for Extension of Time

Gentlemen:

Attached is additional information supplied to us by our subcontractor, Hansen Electric Co., explaining the delay in receipt of the control cabinets. If you need any additional information, please let me know.

Very truly yours,

Jay Minor

JM/sls

Attachment

RECEIVED
AUG
OFFICE of RESIDENT ENGINEER

Hansen Electric Co.

TELEPHONE
Office: 665-8196
Mobile: 224-3565-514

ELECTRICAL CONTRACTORS
1129 S.E. 199th Avenue
Portland, Oregon 97233

August 17, 1976

Coral Corporation
P.O. Box 258
Gladstone, Oregon 97027

Attn: Mr. Jay Minor

RE: McMinnville, Williams, Sheridan OSHD Contract 8248
Our Job 9975

Gentlemen:

In answer to your request for additional information regarding the delivery of the Control Cabinets 200 and 205 for the OSHD Contract 8248, we offer the following:

1. Purchase order placed 8/8/75 to Tillman & Booth No. 2543-9975-11 Exhibit # 1
2. Tillman & Booth purchase order to ITE No. CE-64733 dated 8/27/75. Exhibit # 2
3. ITE acknowledged Tillman & Booth order 9/3/75. Exhibit # 3
4. We received and transmitted the approval drawings on 10/2/75 to the OSHD. Exhibit # 4
5. We received the drawing marked "resubmit" on 11/4/75 and immediately forwarde it to our supplier. Exhibit # 5 and Exhibit # 6
6. We received the approved revised drawing and forwarded it on 12/18/75. Exhibit # 7 (Note requested delivery)
7. We informed the supplier on 1/29/76 of his failure to deliver. Exhibit # 8
8. We received the cabinets on 3/8/76 and were told that other poles were to arrive the next day so we scheduled the installation to coincide with the pole delivery.

We have several points to present in our request for waiver of penalty regarding these items.

1. At no time were the signs not illumminated during the wait for the cabinets.
2. If the drawings had been marked "approved as noted", we would have had delivery by January 23, 1976 which would have given us time to install them by completion date.
3. The time required for the initial drawing approval seems extrodinarily long, from 10/2/75 to 11/4/75.

Please advise this office if further information is required.

Sincerely,

Russell D. Hansen
President

RDH:pe

HANSEN ELECTRIC COMPANY

#1

P. O. BOX 1228, 1127 SOUTH BROADWAY, COOS BAY, OREGON 97420
PHONE (503) 267-2143

TO Tillman & Booth

SHIP TO 575 N.E. 4th St. Coos Bay, Ore.

PLEASE ENTER OUR ORDER FOR GOODS LISTED BELOW:

REQUIRED	SHIP VIA	ROUTING	TERMS	ORDER DATE
8/15/75				8/8/75

Qty. Ord.	Qty. Rec.	UNIT	DESCRIPTION	PRICE	UNIT
1		Ea	92A [illegible]		
1		"	12 x 12 x [illegible]		
			FLANGED END		
1		"	12 x 8 - 6 WAYS		
1		"	TYPE 200 - [illegible]		
			1-30 AMP - 2-[illegible] 15 AMP 2-POLE	432.00	
			CONTACTORS W/ [illegible]		
1		"	TYPE 20-T [illegible]		
			1-15A 2 Pole [illegible] 1-R.H. 2	27.00	
			CONTACTS W/ [illegible]		
		"	TWISTLOCK [illegible]		
			BASE.		
			Please [illegible]		
			data		

NO. MUST APPEAR ON ALL RELATED PACKAGES AND FORMS • PLEASE ACKNOWLEDGE IMMEDIATELY AND STATE WHEN YOU WILL SHIP ORDER

Please send ..... copies of your invoice with original Bill of lading

2543 - 9975-11

PURCHASING AGENT

PURCHASE ORDER

#2

PURCHASE ORDER

TILLMAN & BOOTH, INC.

WHOLESALE DISTRIBUTORS

• P. O. BOX 1148 • 215 W. FIFTH AVE. • EUGENE, OREGON 97401 • PHONE 343-7701 •

1-800-452 4764

M

PURCHASE ORDER DATE	SHIPMENT TO ARRIVE	
8·27·75	Sept	▶ CE-64733 ◀ THIS NUMBER TO APPEAR ON ALL INVOICES, BILLS OF LADING, AND ALL CONTAINERS.

4/290.01

VENDOR: ITE IMPERIAL CORP.

SHIP TO: HANSEN ELECTRIC 1129 SE 199 AVE PTLD 97233

ITEM	PRODUCT CODE	QUANTITY	PRODUCT DESCRIPTION	UNIT COST	DISCOUNT
A	43T25W	1	SELL 4370 2 [illegible]	314 ea	N
B	5	1	SELL 3712A [illegible]	333 ea	N
			[illegible]		
			[illegible]		
			[illegible]		
			Called 12-11-75 released 12-23-75		
	TS		FEB-12TH		

with ship 1/30

called 1-12-76 - new Portland address

Please Note: ▶ PLEASE ENTER OUR ORDER FOR THE ABOVE. THIS ORDER IS NOT AN EXPRESSION OF ACCEPTANCE OR A CONFIRMATION DOCUMENT AND EXPRESSLY LIMITS ACCEPTANCE TO THE TERMS STATED HEREIN. AND ANY ADDITIONAL OR DIFFERENT TERMS PROPOSED BY SELLER ARE REJECTED UNLESS EXPRESSLY ASSENTED TO IN WRITING. INVOICES RECEIVED ON OR AFTER THE 25th OF THE CURRENT MONTH WILL BE TREATED, PROCESSED, PAID, AND CASH DISCOUNTS TAKEN AS IF RECEIVED ON THE FIRST DAY OF THE NEXT SUCCEEDING MONTH

Signed _____

#3

ITE Imperial Corporation
PORTLAND AREA SERVICE CENTER
1733 N.E. 7TH – PORTLAND, OREGON 97212

PURCHASE ORDER NUMBER	DATE ENTERED	TERMS: 1% 10TH PROX., NET 30TH PROX.	NET 30 DAYS	1% 10TH PROX., NET 11TH PROX.
[illegible]	[illegible]			

SALES ORDER NO.
19-47373-050 2

SHIP TO
HANSEN ELECTRIC
575 NE 8th St.
GRESHAM, OREGON
MARK: OSHD CONTRACT #814F

Cars Point
F.O.B. Of Shipment:
PPD ALLOW | PPD CHG | COLLECT

REQ'D SHIPPING DATE: PART. | COMP.
AFTER APPROVAL
SHOP DRAWINGS
SHIPPING SCHEDULE:

We thank you for the order which is subject to the terms and conditions on the reverse side hereof. Acceptance of this order is subject to the approval of our credit department.

Signed by

Date
For ITE Imperial Corporation

SOLD TO
TALMAN & BOOTH INC.
1135 SO. BROADWAY
COOS BAY, OREGON 97420

CUSTOMER ACCOUNT	ORDER OFF.	ENGR. OFF.	DEST. OFF.	TAX CODE	CL. OF CUST.	C.V.
D 3245 01	7282.00			199		

ITEM NO.	QUAN. ORD.	CATALOG NO.	DESCRIPTION (PAGE OF)	PRODUCT CODE	UNIT PRICE	MULTIPLIER	BACK ORDERED	QUANTITY SHIPPED	AMOUNT
1	1	20" x 20" x 8" 10 GA. HDCAF							
		SERV. CABINET		19-6[illegible]C	394.00 net				
2	1	16" x 20" x 8" 10 GA. HDCAF							
		SERV. CABINET		19-[illegible]9	33[illegible] net				
			CC: 7282 E						

ACKNOWLEDGMENT

PRICE ADJUSTMENT CLAUSE APPLIES.
EFFECTIVE 3-3-76 PRICES FOR
THE UNSHIPPED PORTION OF THIS ORDER
SHALL BE INCREASED BY 2/3% PER
MONTH OR FRACTION THEREOF

The material included in this invoice was produced in accordance with the applicable provisions of the Fair Labor Standards Act. of 1938 as amended. Do not take cash discount on transportation charge. See reverse side for terms and conditions.

Form 1003

THANK YOU FOR YOUR ORDER

ACKNOWLEDGEMENT

HANSEN ELECTRIC COMPANY
P.O. Box [illegible]
COOS BAY, OREGON 97420

Phone (503) [illegible]

#4

LETTER OF TRANSMITTAL

DATE	JOB NO
[illegible]	8284

ATTENTION [illegible]

RE [illegible] 8284
[illegible] ALTERNATORS AND
[illegible] Millwork, Wisconsin
[illegible] Small Boat Shop Project

TO Oregon State Highway
2111 Empire Blvd
Salem, Ore

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☒ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
8	9/5/62		ITE [illegible] for TYPE
			220 AMP [illegible]
5	9/6/62		NU-1 [illegible]
5	12/13/63		" " [illegible]

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☒ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19_____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

COPY TO Corps Engineers

SIGNED: [signature]

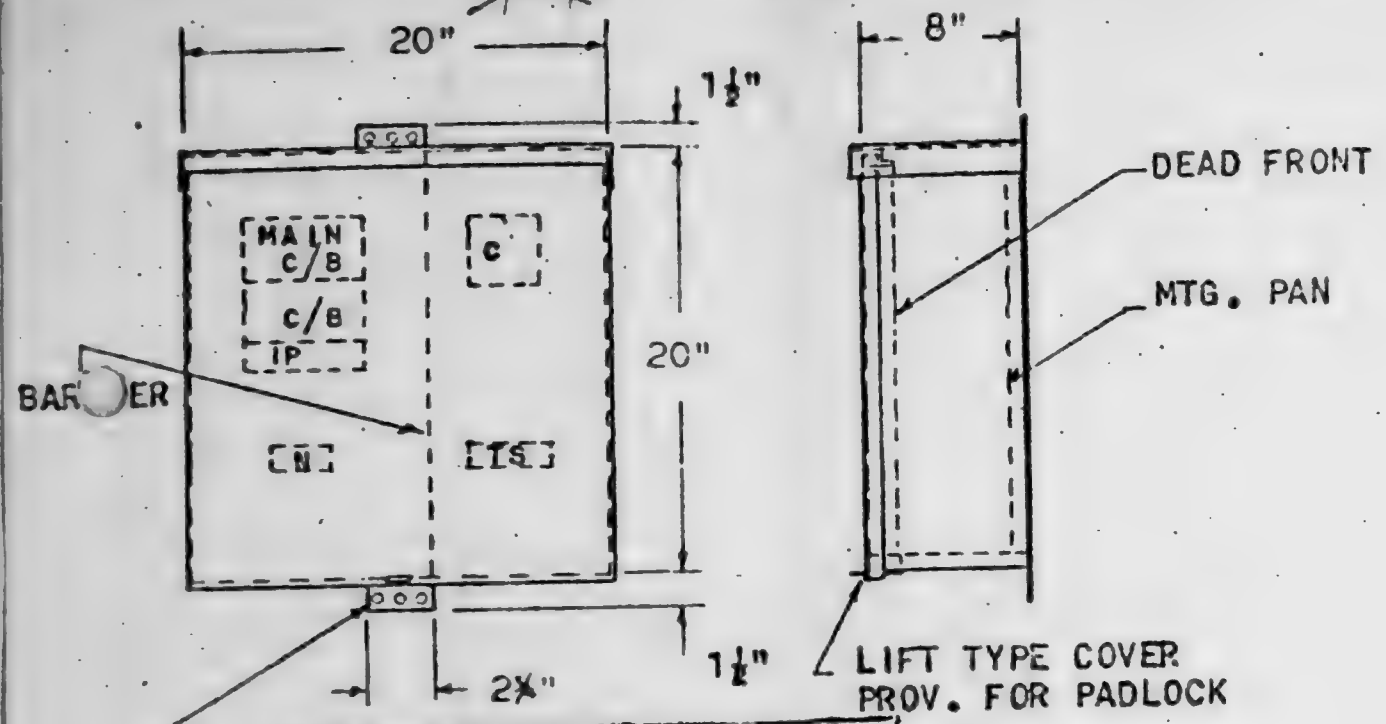
Form 3082 — New England Business Service, Inc., Townsend, Mass.

If enclosures are not as noted, kindly notify us at once.

Note!

#5

Dead fronts may be fabricated from code guage galvanized steel sheet. Cut edges shall be treated with zinc-rich paint. They shall be primed with a vinyl wash primer and finished with exterior polyurethane enamel. The color shall be similar to that of OSHD Formula No. 15-74 aluminum.



1-30A-2P E - MAIN BREAKER
2-15A-2P E BREAKER
2-30A-2P, 120V ELEC. HELD CONTACTORS, A132C12
1-15A-1P E BREAKER
1-15A TEST SWITCH 277v.A.C., 1-P
1-NEUTRAL BLOCK

(1 CABINET REQUIRED)
Cabinet No. 200

~~1-30A-2P E - MAIN BREAKER~~
1-30A-2P E BREAKER MAIN
1-15A-2P E BREAKER
1-30A-2P, 120V ELEC. HELD CONTACTOR, A132C12
1-15A-1P E BREAKER
1-15A TEST SWITCH 277v.A.C., 1-P
1-NEUTRAL BLOCK

(1 CABINET REQUIRED)
Cabinet No. 205

Note: Cabinet No. 205 is a 20"x16"x8" galv. steel cabinet with: 1-30amp., 240 v.A.C., 2-pole main cir.bkr.; 1-15amp., 240 v.A.C., 2-pole cir. bkr; 1-15amp., 120 v.AC., 1-pole control bk. 1-30 amp., 2-pole lighting contactor with 120 volt coil; 1-277v.A.C., 1-pole test switch; and neutral block.

APPROVED WITHOUT CHANGE
APPROVED AS NOTED
RETURNED FOR CORRECTION

OCT 20 1975

OREGON STATE HIGHWAY COMMISSION
Subject to Section 105.02 of the Standard Specifications for Highway Construction
BY RDStumpff

NOTE: CABINET FABRICATED OF 12 GAUGE SHEET STEEL, -OT DIMPLED GALVANIZED AFTER FABRICATION. ENCLOSURE SHALL BEAR U.L. "CUT-OUT BOX" LABEL. ALL INTERNAL WIRING EXCEPT FIELD WIRES SHALL BE DONE BY A U.L. LISTED FACILITY.

Name plate: 120/240 Volt, Sign Lighting

O.S.H.D. CONTRACT 5264 S.O. #19-3737A

SCALE: NONE	APPROVED BY: al	DRAWN BY
DATE. 2-5-75		REVISED

I-5 INTERNATIONAL BOULEVARD REST AREA SIGN LIGHTING

DRAWING NUM:

...mperial Corporation

TIME - SAVER - MEMO

FROM: RUSS HOWELL

LOCATION: ROSEBURG

TO: EB ROSSON

LOCATION: EUGENE

SUBJECT: O.S.H.A. CONTRACT #8298 MCMINNVILLE WILLAMINA SHERIDAN

DATE: 11-17-75

MDC #	CUST. P. O. #	P. O. #	
	CE-64733.		19-47393

MESSAGE:

DEAR RUSS:

ATTACHED ARE 8 COPIES OF RE-SUBMITTAL DRAWINGS ON SUBJECT PROJECT. PER YOUR REQUEST OF 11 5 75.

UPON APPROVAL PLEASE INDICATE DELIVERY DATE REQUESTED.

REGARDS.

ED Rosson.

CC: T&B INC. COOS BAY. COPY

SIGNED:

☐ NO REPLY REQUIRED ☐ PLEASE REPLY

MESSAGE:

SIGNED:

DATE:

C 01809

DIRECT

REQ. NO. 2543-9975-1

B/O TO C09909

B/O FROM

TILLMAN & BOOTH, INC.

WHOLESALE DISTRIBUTORS

P. O. BOX 1148 EUGENE, ORE. 97401 PHONE 343-7701

P. O. BOX 489 KLAMATH FALLS, ORE. 97601 PHONE 884-4171

P. O. BOX 817 MEDFORD, ORE. 97501 PHONE 772-7131

P. O. BOX 1135 COOS BAY, ORE. 97420 PHONE 267-2145

DATE 8/12/75

WRITTEN BY TE

PACKED BY

DATE SHIPPED

VIA

SOLD TO 31404 Hansen Electric Co.
P. O. Box 1148
Coos Bay, OR 97420

SHIP TO HANSEN ELECTRIC C/O
575 N.E. 4TH ST.
GRESHAM, OR.

TB CODE	BAL.	QUAN ORDERED	QUAN SHIPPED	PRODUCT DESCRIPTION	PROD. CODE	CASH DISC	UNIT PRICE	PER	DISC.	EXTENSION	COST
S	B	1	0	924CC LIGHT AW N. 105	53715-1						
S		1	1	12 X 12 X 6 CAST IRON GALV	71993-1						
				J BOX WITH GASKETED							
				FLANGED LID YR121209 12							
S		1	1	12 X 6 X 6 DIT YR121206 12	71993-1						
	B	1	0	TYPE 200 GALV. STEEL							
				SERVICE CAB. WITH							
				1-30/2, 2-15/2, 1-15/1							
				2-30A 2P CONTACTORS W/							
				TEST SW. & NEUTRAL.							
		1	0	TYPE 205 GALV. SER. CAB.							
				WITH 1-15/2, 1-15/1, 1-30/2							
				1-30A 2P CONTACTOR W/TEST							
				SW & NEUTRAL							
	B	2	0	TWISTLOCK RECELL W/ 1 1/4"	89340-4						
				CONDUIT BASE. MFR [illegible]							

BAL. B—BACK ORDERED C—CANCELLED

TERMS: ALL ACCOUNTS DUE AND PAYABLE ON 30TH OF MONTH FOLLOWING PURCHASE. APPLICABLE CASH DISCOUNT ALLOWED IF PAID BY 10TH OF MONTH FOLLOWING PURCHASE. 1½% PER MONTH SERVICE CHARGE ON PAST DUE ACCOUNTS.

DELIVERY RECEIPT

N 43 1/2° E N

N 37 1/2° E N

E.T. 34146

CE-68721

TE CE 64733

HANSEN ELECTRIC COMPANY
P.O. Box [illegible]
Coos Bay, Oregon 97420

Phone (503) 756-2413

#6

LETTER OF TRANSMITTAL

DATE	JOB NO.
12/13/73	5175
ATTENTION	
RE: Contract 8245 Coos River Bridge, Coos County, Oregon	

TO Tillman & Bolton
P.O. Box 1148
Eugene, Ore. 97401

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☒ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	9/5/73		I-T-E Drawing 11-54-47773-1 (RESUBMIT)
1	12/13/73		Westinghouse - 2851-E-7
1	4/12/72		" " " 2851-E-1, 2
1	3/12/73		Union Metal Corp. Inc. - 1387
1	7/23/71		" " " " 11-A-8510-G4

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit 5 copies for approval
☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19_____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS RESUBMIT #1 Drawing 11-54-47773-1
in 5 copies.

COPY TO _____

SIGNED: [signature]

Form 2564 — New England Business Service, Inc., Fairmont, Minn.

If enclosures are not as noted, kindly notify us at once.

HANSEN [illegible]
P. O. Box [illegible] [illegible] S. Broadway
COOS BAY, OREGON 97420

Phone (503) 267-2148

LETTER OF TRANSMITTAL

#1

DATE	JOB NO. 9475
ATTENTION	
RE [illegible] 9245	

Tillman & Bruce
P.O. Box [illegible]
Eugene, Or. 97401

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☒ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	11-10-85		[illegible]

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19_____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS [illegible] Enclosed
Per 11-10-85

COPY TO _____

SIGNED: [illegible]

If enclosures are not as noted, kindly notify us at once.

Form [illegible] — New England Business Service Inc., Townsend, Mass.

Hansen Electric Co.

1127 S. Broadway — P. O. Box 1228
COOS BAY, OREGON 97420
Telephone 267-2143

ELECTRICAL CONTRACTORS

9973

January 29, 1976

Tillman & Booth, Inc.
P.O. Box 1135
Coos Bay, Oregon 97420

Attention: Tom Ryan

RE: Our P.O. No. 2543-9975-11
Oregon State Highway
McMinnville-Sheridan

Dear Tom:

The type 200 galvanized service cabinet and type 205 galvanized service cabinet specified on our purchase order number 2543-9975-11 dated August 8, 1975 have not been received to date on the job site.

Please be advised that these must arrive by January 30, 1976 to allow us time for installation; as the date of completion is January 31, 1976. If we are forced into excess time due to late arrival we will hold Tillman & Booth responsible.

As of February 1, 1976, Hansen Electric Company will charge Tillman and Booth $100.00 per day penalty for each day the cabinets are not at the job site, plus any other accrued cost which occur due to the late delivery.

Sincerely,

HANSEN ELECTRIC COMPANY

Lonnie L. Williams
Executive Vice President

LWW:dks

cc: Dick Booth
Russel Hansen

5248

1

ROBERT W. STRAUB
GOVERNOR

OREGON STATE HIGHWAY DIVISION

February 17, 1977

HIGHWAY BUILDING • SALEM, OREGON • 97310

Coral Corporation
PO Box 258
Gladstone, OR 97027

Attention: Larry Arnold
Accountant

Re: Contracts 8248 and 8327

In accordance with your letter of February 9, 1977 the securities on these finalled projects are being transferred to unallocated.

Security Summary:

Contract	Prior Totals	This Transaction	New Totals
8228	$ 500	--	$ 500
8248	1,000	(1,000)	-0-
8327	5,000	(5,000)	-0-
8374	28,500	--	28,500
Unallocated	-0-	6,000	6,000

Vernon E. Skoog
Controller

By _____
James J. Kinns
Contract Payments Executive

NOTED
C. W. HEAD

JJK:mm

cc: The Oregon Bank

bc: C.W. Head
R. Church
C.W. Barrett(Att.)

8248

OREGON STATE HIGHWAY DIVISION

ROBERT W. STRAUB
GOVERNOR

HIGHWAY BUILDING • SALEM, OREGON • 97310

February 1, 1977

The Oregon Bank
Oregon City Branch
P.O. Box 311
Oregon City, OR 97045

Re: Coral Corporation
Contract 8248

This contract has been finalled. This releases the $1,000 securities posted in lieu of retainage on this project.

Please notify this office as to the disposition of this deposit, since it is part of a security posted in conjuntion with other contracts.

Vernon E. Skoog,
Controller

By _____
James J. Kinns
Contract Payments

JJK:mm

cc: Coral Corporation

bc: C.W. Head
R. Church
C.W. Barrett

NOTED
C. W. HEAD

A DIVISION OF THE DEPARTMENT OF TRANSPORTATION

8248

PHONE 655-6351
135 EAST HEREFORD STREET

Coral Corporation

P. O. BOX 258
GLADSTONE, OREGON 97027

January 24, 1977

Oregon State Highway Division
121 State Highway Bldg.
Salem, Oregon 97310

ATTN: Cecil Head

RE: McMinnville, Willimina, Sheridan
Area Safety Project
Contract No. 8248

Dear Mr. Head:

We wish to notify you that we are still pursuing our claim to recover the $5600 in liquidated damages withheld on the above contract even though we have returned the signed copy of the final voucher.

If you have any questions or need any additional information, please let me know.

Sincerely,

Larry Arnold

Larry Arnold
Accountant

LA/sls

CC: Warren Mueller
Resident Engineer
P.O. Box 30
Salem, OR 97310

Copies to Keasey, Sheldrake, Hacek
CWH

RECEIVED
JAN 26
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

NOTED
C. W. HEAD

8248

December 9, 1976

The Travelers Indemnity Co.
Surety Department
707 S.W. Washington Street
Portland, OR 97205

Gentlemen:

On December 1, 1976, we wrote to you concerning release of final payment on Contract No. 8248 awarded to Coral Corporation for work on the McMinnville, Willamina, Sheridan Area Safety Project in Yamhill and Polk Counties.

The total contract amount is $181,634.77 including $2,760.91 for work performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

cc Coral Corporation
135 E. Hereford
Gladstone, OR 97027

C. T. Keasey
Walt Hart - Bridge
V. E. Skoog Attn: Dick Hacek
C. O. Fredrickson

8248

11-22-76

IW

McMinnville, Lillamina, Sheridan Area Safety Project
Pacific West and Salmon River Highways
Yamhill and Polk Counties
Contract No. ~~8248~~ 8248
Job Prefix 30-1067
F.A. Project No. RSS-0003(9)

Contractor: Coral Corporation

RESIDENT ENGINEERS PARTITIVE REPORT

This was a Roadside Obstacle Safety project extending from Wallace Bridge, M.P. 26.35 to East McMinnville Interchange, M.P. 46.24 on the Salmon River Highway, and from North Yamhill River bridge M.P. 35.20, to St. Joseph Undercrossing, M.P. 34.15, on Pacific West Highway. The contract was awarded to Coral Corporation on June 24, 1975. Calendar-Day count began with July 15, 1975, and the 200 Calendar Days specified for completion of the project expired at the end of the day of January 30, 1976.

CONTRACT DATA

Amount of Contract	$187,484.40
Final Contract Cost	$184,564.90 = 1.56% underrun
Project Authorization	$215,178.30
Final Project Cost	$206,544.89
Contract Time Specified	200 Calendar Days
Contract Time Elapsed	256 Calendar Days

A preconstruction conference was held in Salem on July 21, 1975, at which time the contractor submitted a proposed work schedule. Sub-contractors on the project were:

Roy L. Houck Construction Co.	(Road Work)
Hansen Electric Co.	(Illumination)
Goldie Gentle Construction Co.	(Concrete Work)

Of these, only Roy L. Houck Construction Co. was represented at the preconstruction conference.

Work began on the project July 30, 1975, when Houck started pipe installation at Booth Bend Road. An existing pipe was discharging water onto the highway cut slope at this site, causing considerable erosion of the slope, so the pipe was extended down the slope and connected to the new pipe installation by adding a second junction box to the project. Price Agreement No. 1 covered this work, extending quantities at contract bid prices.

Construction of guard rail flare embankments began on August 12, 1975, and Coral Corp. formed and poured the west footing for the sign bridge at Unit "C" on the same day. Removal of paint from existing guard rail began two days later.

REFERRED TO
Beard W&B Reed
Cole Sample
Eriksen Watson
Meger Wolfe
Return Discuss Do File Copy Due
BY FINAL DESIGN ENGINEER

(1) Versteeg ✓
Olson
Christensen
Scott
Swenson
Savage
Trout

RECEIVED
NOV 29 1976
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up
Other

From August 16 to September 22, the only activity on the project was construction of concrete shoulder barriers and paved end slope for culvert. Between September 23 and 26, the contractor completed the footings and pedestals for the sign bridge at East McMinnville Interchange and the footing for the cantilever sign at East McMinnville Interchange, these being the two major sign support structures on the project.

Guard rail installation began on September 30, but continued for only four days. The Fitch Module impact attenuators were installed at St. Joseph undercrossing October 6-8, and no more than two consecutive days' work was performed on the project at any one time for the rest of the month. Footings for all breakaway sign supports were completed by November 11. The paving of guard rail flares began on that day, having been delayed for a week by unfavorable weather, and was completed in a week. For all practical purposes, work was then suspended for the season of winter rains.

When the contractor attempted to erect the cantilever sign support structure at East McMinnville Interchange, on November 25, it was discovered that through a field error the new bolt pattern called for by current plans had been incorrectly oriented. For the base plate to match the faces of the foundation, the pole had to be rotated so that the arm was 18 degrees off right angles to the highway. With the concurrence of Traffic and Bridge Design Sections, the structure was erected in this manner on January 21, 1976, as this was held preferable to the cutting and re-welding which would be required to re-orient the pole with relation to the base plate.

The area experienced unusally heavy rainfall during the the winter and the resulting runoff eroded cutbanks of Booth Bend Road undercrossing, washing out aggregate base materials placed under the contract and undercutting the guard rail flare pavement. A subcontractor performed emergency repair work on December 5, 1975, to prevent loss of the guard rail and paving, but another storm on January 14, 1976, washed out some of the rock again. He made permanent repairs on February 6, under E.W.O. No. 1, but State forces were called in to repair still further damage after his forces had left the project. Under S.F.O. No. 1, State forces also performed more extensive drainage work designed to cure the problem, and no further trouble has been experienced to date.

Work resumed January 12, 1976, on guard rail construction, which was pursued to its completion on January 30, 1976, the date on which the 200 Calendar Days specified for completion of the project expired. Erection of breakaway sign posts had begun on January 22, and the sign bridge at West McMinnville Interchange was erected on February 3 for which traffic was halted approximately six minutes, with not more than ten vehicles affected. On that same day, Tom Artherton and Bob Malcom observed contractor's unsuccessful attempt to tighten anchor bolts on the cantilever sign sufficiently to obtain required deformation of Load Indicator washers. Another attempt the following day was successful, with two men exerting their full force on an eight-foot extension to the handle of a large crescent wrench. The contractor finished sign removal, revision, and installation work; and with the grouting of the sign

bridge bases, the contractor completed all work items on the project that same day, February 4, with the exception of the illumination work.

The subcontractor responsible for that phase of the work had not moved onto the project until January 23, 1976, with just eight days remaining of the 200 specified for completing the project. He encountered rock too hard for the backhoe to excavate at Unit "J" (East Sheridan) on January 29, and could not get excavations for light pole bases to the required depth. The Region Geologist examined the rock on the ground, and on his recommendation, the contractor's request for permission to drill holes for anchor bolts into the rock was denied and he was advised by phone on February 3 that excavations must be made full depth for the footings as specified. He resumed this work on February 5, with a jackhammer breaking up the rock satisfactorily. He encountered water at a depth of three feet, in sufficient quantity that two three-inch pumps were required to pull the water level down far enough so work could proceed.

The subcontractor completed the light pole bases, and pursued other work on the project until lack of materials stopped him. He then performed Extra Work at Unit "H" which involved rewiring and rehanging blinker lights, under E.W.O. No. 2. This was completed on February 25, and he left the project until March 12, when the first of the poles he had been waiting for were delivered to the jobsite. With the exception of some minor cleanup work which had to be postponed because of saturated ground, all work was completed on March 24 when he delivered six salvaged light poles to the Salem maintenance yard, and the seven-day burn of new luminaires was successfully completed on March 26, 1976.

The cleanup work was subsequently completed, and final inspection took place on May 5, 1976.

The foregoing history of the project refers to events and problems in their proper chronological sequence. None of the problems encountered would appear to warrent elaboration, but a recapitulation of the change orders and their costs follows:

ANTICIPATED ITEMS

Temporary Erosion Control

Authorized	$100.00
Expended	---
Underrun	100%

State Responsibility for Damages

Authorized	$2,000.00
Expended	---
Underrun	100%

UNANTICIPATED ITEMS

Price Agreement No. 1

Document $460.00 increase in Bid Items 11 & 14, 12-inch pipe and junction box.

Price Agreement No. 2
Document use of old-style guard rail bolts. - No Cost

Extra Work Order No. 1 (Repair damage from heavy run-off.)

Authorized	$600.00
Expended	$409.44
Underrun	31.76%

Extra Work Order No. 2 (Relocate flashing beacons & revise wiring. This was a field design change to improve safety.)

Authorized	$1,200.00	
Expended	$2,353.70	96.14% Overrun

State Force Order No. 1 (Erosion repair and remedial drainage work.)

Authorized	$975.00
Expended	No Billing Received

FINAL COSTS

	Authorized	Final	Net Change
Bid Items	$187,484.40	$184,473.86	-1.61%
Anticipated Add'n'l	2,100.00	--	-100%
Contingencies	8,531.30	--	-100%
Engineering	17,062.00	21,835.12	+27.97%

CLAIMS

No claims have been received on this project, nor is any anticipated.

TIME EXTENSION REQUEST

The contractor has requested an increase in calendar days to complete the project, from 200 to 250 days, citing late delivery of the sign bridge structure and illumination poles.

RECOMMENDATIONS FOR FUTURE DESIGN CHANGES

Erecting sign posts the required 30 feet from edge of shoulder where no guard rail is present can create confusion for motorists on a project of this nature, where existing signs remain at other distances from the shoulder of the highway immediately adjacent to the project. Accustomed to seeing the signs closer to the roadway, the motorist is not prepared to look further away when he enters the project area which, after completion, looks much the same as the rest of the highway on which he has been driving.

It is recommended that the distance requirement be reviewed, and modification allowed on this type of project where conditions might warrent it. One possibility is to require that the nearest sign post be 30 feet from the edge of travel lane, rather than from the shoulder as shown on Standard Drawing No. 2940A.

It is also recommended that where guard rail installation

crosses a culvert or other underground facility and Standard Drawing No. 212oll calls for the conflicting guard rail post to be deleted, consideration be given to requiring double rail elements where the post is deleted. The location of the double rail should be such that no splice occurs in the space where a post is missing.

One contractor specializing in guard rail construction has indicated that such a requirement would not change his bidding, as the saving which results from the deletion of the post tends to offset the cost of the additional rail element.

It is also recommended that future projects which include cantilever sign support structures do not call for Load Indicator Washers, but revert to the procedure which uses galvanized bolts and leveling nuts.

It has been observed that the system using Load Indicator Washers makes erection of the structure more difficult. Obtaining the proper rake in the column by placement of the minimal grout pad, and maintaining that rake while the grout sets sufficiently to fully support the column, is a touchy operation.

The high-tensil strength anchor bolts required for this system are not readily obtainable, according to the contractor. They cannot be galvanized, but must be cleaned and painted following erection of the structure.

Indications from the contractor are that his bid price will be higher in the future, on any structures where use of the Load Indicator Washers is required.

All of the foregoing influenced this office in making the recommendation to abandon the procedure.

8248

OREGON STATE HIGHWAY DIVISION

September 9, 1976

HIGHWAY BUILDING • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator of Highways

Coral Corp.
P.O. Box 258
Gladstone, OR 97027

Attention: Larry Arnold

Re: Contract 8248

Retainage requirements on our contract 8248 have been reduced to $1,000.00. You may request transfer of $8,600 of the certificate of deposit now credited to this contract to another of your contracts or receive $8,600 in cash from the bank when the certificate matures.

V.E. Skoog
Controller

by

Janice H Peterson
Contract Payments Executive

cc: The Oregon Bank

bc: C.W. Head
R. Church
C. Barrett

8248

FORM E-1 (REV. 10-69)

OREGON STATE HIGHWAY DIVISION

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: McMinnville, Willamina Sheridan Area		WEEK ENDING: May 15, 1976
		SECTION PREFIX: 36-1067
HIGHWAY: Pacific W. & Salmon R.		COUNTY: Yamhill and Polk
NAME OF JOB: McMinnville, Willamina, Sheridan	KIND OF WORK: Guard Rail, Attenuators and Signing	
CONTRACTOR: Coral Corporation	CONTRACT NUMBER: 8248	FEDERAL AID PROJECT NUMBER: ROS-000S(9)
DATE OF CONTRACT: June 24, 1975	DATE WORK STARTED: July 16, 1975	ESTIMATED COMPLETION DATE: ~~May 5, 1976~~
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 0 SUPERVISION: 0	SPECIFIED WORK DAYS	WORK DAYS USED
	SPECIFIED CALENDAR DAYS: 200	CALENDAR DAYS USED: 256
	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED: 128%
PROJECT AUTHORIZATION: $ 215,178.30		
EXCLUSIVE OF ENGINEERING: $ 198,115.70	ENGINEERING AUTHORIZATION: $ 17,062.60	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 96%
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 198,115.70	ENGINEERING COST TO DATE: $ 20,641.90	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 92%
ESTIMATED PERCENT: OVERRUN / UNDERRUN: 0 %	PERCENT OF AUTHORIZATION: 121 %	DATE PROJECT WAS COMPLETED: 3-26-76

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		
100%	100%	100%	100%	100%	100%		

	ROADWORK	SIGNING	ILLUMINATION		
MILES IN PROJECT	21	21	21		
MILES PARTIALLY COMPLETED	21	21	21		
MILES COMPLETED	21	21	21		
TOTAL ESTIMATED QUANTITIES (CONTRACT)	$ 97,804.40	$ 53,470.00	$ 22,750.00		
TOTAL QUANTITIES CORRECTED TO DATE	$ 97,804.40	$ 53,470.00	$ 22,750.00		
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	$ 97,804.40	$ 53,400.00	$ 22,700.00		
AVERAGE DAILY QUANTITIES	0	0	0		
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME	-	-	-		
NUMBER OF SHIFTS PER DAY	0	0	0		
HOURS PER SHIFT	0	0	0		

EQUIPMENT USED DURING THE WEEK:

No activity this week.

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY 9	Clear, Sunny	0		
MONDAY 10	Cloudy, Rain	0		
TUESDAY 11	Cloudy, Fair	0		
WEDNESDAY 12	Clear, Sunny	0		
THURSDAY 13	Clear, Sunny	0		
FRIDAY 14	Cloudy, Fair	0		
SATURDAY 15	Clear, Sunny	0		

Routing
Keasey
Bond
Jackmond
Harwood
Johnsen
Walker
Richards
Glenn
Berg

RECEIVED
MAY 18 1976
CONSTRUCTION
SECTION

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK	
SUNDAY	No work today.
MONDAY	No work today.
TUESDAY	No work today.
WEDNESDAY	No work today.
THURSDAY	No work today.
FRIDAY	No work today.
SATURDAY	No work today.

REMARKS

No activity this week.

Minor cleanup to be completed.

Semi - Final Estimate submitted on 5-13-76.

SIGNED C.V. Lehman LOCATION 2111 Front St. N.E. Salem, Oregon

C.V. Lehman

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

OREGON STATE HIGHWAY DEPA MENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. 1

Project Name McMinnville, Willamina, Sheridan Area Date April 1, 19

Highway Salmon River and Pacific West Contract No. 8248 F. A. Project No. ROS-(

County Yamhill and Polk Prefix 36-1067 Account No. 231-0

Description of Work To Be Done:

Install culvert pipe to correct drainage problem at the site of guard rail installed to provide protection of undercrossing structure columns.

APPROVED EFFECTIVE DATE 3/30/76
Contingent upon modification of project agreement if additional funds are required.
BY [signature]
TITLE Dist. Engineer
DATE 4/28/76
FEDERAL HIGHWAY ADMINISTRATION

Location by Station Numbers:

Salmon River highway Unit 'E' M.P. 45.19

Estimate of Quantities and Costs:

Labor	$ 300.00
Materials	525.00
Equipment	150.00
Total =	$ 975.00

RECEIVED
STATE HWY ENG=
MAY 6 '76
REFER TO
FOR
Info | Inves | R/D | D-R | Sign | Act | Ltr

Explanation:

It is in the best public interest to have this work performed by State Forces rather than by the contractor's forces.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$ 215,178.30
Present estimate of project cost, including $ 975.00 for work under this order	$ 215,178.30
Expected under-run / over-run (amount)	$ 0.00
Expected under-run / over-run (per cent)	0%

Space to right of this line is for use of Salem Office

Submitted by: [signature] Resident Engineer

Approval Recommended: [signature] Division Engineer

Approval Recommended: [signature] Construction Engineer / Bridge Engineer

Approved: [signature] Engineer of Construction

State Printing

8248

OREGON STATE HIGHWAY DIVISION

Robert Straub
[redacted]
GOVERNOR

F. B. KLABOE
Administrator of Highways

HIGHWAY BUILDING • SALEM, OREGON • 97310

August 20, 1975

The Oregon Bank
Oregon City Branch
PO Box 311
Oregon City, OR 97045

Re: Contracts: 8202, 8216, 8228, 8248

We have received your Safekeeping Receipt #26936, covering Certificate of Deposit #96731 in the amount of $25,000.00 to be used in lieu of retainage on our contracts with Coral Corporation as follows:

Contract	Amount
8202	$5,700
8216	3,200
8228	6,500
8248	9,600

Vernon E. Skoog
Controller

By Frank R. Griffin
Frank R. Griffin
Chief Accountant

JP:pl

cc: Coral Corporation

THE OREGON BANK
OREGON CITY BRANCH

No 26936 | 8

PORTLAND, OREGON 8-15 1975

RECEIVED FROM OREGON STATE HWY DIVISION
CD # 96731, DTD 8-15-75, IN THE AMOUNT
OF $25,000.00 ISSUED TO CORAL CORPORATION.
TO MATURE 2-11-76.

BANK TO HOLD ABOVE C.D. PENDING
RELEASE AUTHORIZATION FROM OREGON
STATE HWY DIVISION.

THE OREGON BANK

BY

COM 233

ASSIGNMENT

The undersigned, for value received, does assign and transfer to the State of Oregon Certificate of Deposit #96731 dated August 15, 1975 in the amount of $25,000 evidencing the deposit of funds in the name of Coral Corporation on the books kept by the Oregon Bank of the city of Oregon City, Oregon as assignee and the undersigned hereby constitutes and appoints the Oregon Bank the true and lawful attorney of the undersigned irrevocably for and in the name of stead, of the undersigned, but to the use of the assignee to sell, assign, transfer and set over all or any part of the said certificate and all rights and interests represented thereby and for that purpose to make an exact or necessary account of assignment.

By Robert C Frazier
Coral Corporation

This 15th day of August, 1975

Sworn to before me this

25th day of August, 19 75

Notary Public

My commission expires 3/12/76

PHONE 655-6351
135 EAST HEREFORD STREET

Coral Corporation

P. O. BOX 258
GLADSTONE, OREGON 97027

August 15, 1975

Ms. Janice Peterson
Finance Branch
Oregon State Highway Bldg.
Salem, Oregon 97310

Dear Ms. Peterson:

I am enclosing a safekeeping receipt for $25,000 certificate of deposit #96731 dated August 15, 1975 from the Oregon Bank along with an executed assignment of that certificate of deposit to the State of Oregon. This certificate is to be used for the release of retained funds on the following projects:

#8202	M.P. 102.0-Otis Junction	$5,700
#8216	Region 1 Area Safety Project	3,200
#8228	Salem, Hubbard Area Safety Project	6,500
#8248	McMinnville, Willimina, Sheridan Area Safety Project	9,600

The Oregon Bank should be notifying you shortly that the certificate of deposit and assignment are being held by them pending your instructions.

Sincerely,

Deane Clapperton, C.P.A.
Controller

DC/sls

CC: Roger Wills

RECEIVED
AUG 18 1975
Contract Acctg.

STATE COPY

Form Approved; O.M.B. No. 04-R2089

TO BE COMPLETED BY FHWA MONTHLY TRANSACTION NO. 7-28	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION **FEDERAL-AID PROJECT AGREEMENT**	STATE OREGON COUNTY Polk & Yamhill PROJECT NO. ROS-000S(9)

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

McMinnville, Willamina & Sheridan Area

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	5-28-75	0.00
OTHER *(Specify)*		

FUNDS Pro-Rata 90%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 206,342	$ 185,707

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E S Hunter

Asst. State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
G. L. Green *(Division Engineer)*

Date executed by
Division Engineer _____

Form PR-2 (Rev. 9-74) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 301(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 7, 1975

Federal-aid Project
No. ROS-000S(9)

McMINNVILLE, WILLAMINA, SHERIDAN
AREA SAFETY PROJECT
PACIFIC WEST AND SALMON RIVER HWYS.
YAMHILL AND POLK COUNTIES

Project Agreement Estimate.

Type Code Y101
Roadway (Pacific Hwy. W. and Salmon River Hwy.)

Mobilization	All Required		$ 8,300.00
Temporary Protection and Direction of Traffic	All Required		1,500.00
Temporary Signs	450 sq.ft.	3.60	1,620.00
Flagmen	120 hour	17.00	2,040.00
Removal of Structures and Obstructions	All Required		3,000.00
Earthwork	All Required		14,000.00
Trench Excavation	247 cu.yd.	13.00	3,211.00
Furnishing and Placing Topsoil	115 cu.yd.	9.00	1,035.00
1"-0 Aggregate Base	688 cu.yd.	10.00	6,880.00
Class "C" Asphalt Concrete	127 ton	40.00	5,080.00
12-inch Culvert Pipe	180 lin.ft.	10.00	1,800.00
15-inch Culvert Pipe	760 lin.ft.	11.00	8,360.00
18-inch Culvert Pipe	140 lin.ft.	13.00	1,820.00
Junction Box	1 only	220.00	220.00
Guard Rail, Type 2A	3,688 lin.ft.	5.80	21,390.40
Guard Rail, Type 3	450 lin.ft.	18.00	8,100.00
Guard Rail Anchors, Type 1	8 only	300.00	2,400.00
Guard Rail Anchors, Type 2	7 only	275.00	1,925.00
Extra for Guard Rail Bridge Connections	14 only	350.00	4,900.00
Rail End Pieces, Type A	2 only	10.00	20.00
Rail End Pieces, Type B	1 only	50.00	50.00
Rail End Pieces, Type C	11 only	110.00	1,210.00
Concrete Barrier	250 lin.ft.	24.00	6,000.00
Paved Culvert End Slopes	31 sq.ft.	13.00	403.00
Impact Attenuator, Fitch Modules	All Required		6,000.00

Type Code Y002 Signing

Removal of Existing Sign Structures	All Required		2,700.00
Move Existing Signs	All Required		1,000.00
Sign Support Footings	All Required		11,000.00
Cantilever Sign Structures	All Required		8,000.00
Sign Bridge Structures	All Required		25,000.00
Breakaway Sign Posts	All Required		3,000.00
Type "A" Signs in Place	55 sq.ft.	14.00	770.00
Sign Illumination Equipment	All Required		2,000.00

Type Code Y030 Illumination

Removal of Existing Illumination Installation	All Required		900.00
Foundations	5 only	550.00	2,750.00
Roadway Lighting Poles and Arms	5 only	1,350.00	6,750.00
Frangible Aluminum Transformer Bases	5 only	300.00	1,500.00
Luminares and Ballasts	5 only	170.00	850.00
Switching, Conduit, Wiring, Lamps, Etc.	All Required		10,000.00
			$187,484.40

Anticipated Item

Temporary Erosion Control (E.W.)	All Required	$ 100.00
	Subtotal	$187,584.40
	Engineering	18,757.60
	Total	$206,342.00

Length of Project - - - - - - - - 0.00 mile

Federal Funds -	$185,707.00
State Funds -	20,635.00
Total	$206,342.00

Group 1 - 100%.

Contract No. 8248

Prefix No. 36-1067

McMINNVILLE, WILLAMINA, SHERIDAN
AREA SAFETY PROJECT
Nonparticipating - State Work

State Responsibility for Damages	All Required	$ 2,000.00

8248

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

5-28-75

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.
F -000S(9)

STATE PROJECT NO. McMinnville, Willamina & Sheridan Safety Project

FROM:
G. L. Green, Division Engineer
Salem, Oregon

PROGRAM NO.

ITEM NO.
ROS-12

COUNTY NAME
Polk and Yamhill

PROGRAM STAGE (Check)
☐ 1. ☒ xxx 2.

TO:

Mr. F. B. Klaboe
Administrator & State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
JUL 7 '75
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER
May 28, 1975	May 28, 1975	Primary Route 9 and 23
		STATE ROUTE NUMBER: Primary Route 1W and 39

GENERAL LOCATION:

NOTED
E. S. HUNTER

GENERAL DESCRIPTION OF WORK:

Elimination of roadside obstacles

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

PRELIMINARY ENGINEERING TO DETERMINE
☐ LOCATION ONLY
PRELIMINARY ENGINEERING FOR SURVEY AND PLAN
☐ PREPARATION

☒ OTHER (Specify) Temporary Erosion Control $100

☐ ACQUISITION OF RIGHT-OF-WAY
CONSTRUCTION - ADVERTISE FOR RECEIPT
☒ OF BIDS

☐ CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

After concurrence in award you are authorized to proceed with item listed above as shown in your estimate.

Mr. Rulien's May 23, 1975 request and certifying statements are accepted.

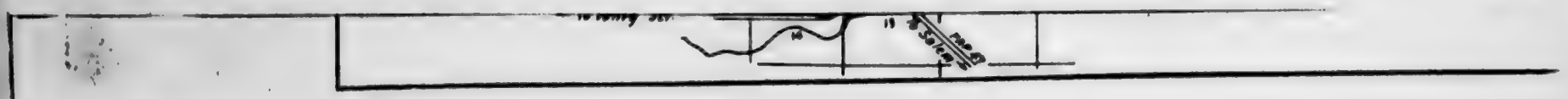
PS&E documents for the subject project have been reviewed and are approved.

A signed Title Sheet is returned herewith.

7-7-75
ORIGINAL TO
L. W. Rulien
w/att.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
May 28, 1975	S. K. Hosanna	Division Engineer

FORM PR-1240 (REV. 6-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

STATE HIGHWAY DEPARTMENT

DATE 5-28-75

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS

(PPM 21-1)

BY (Signature)

TITLE Project Management Engineer

CLASS OF FEDERAL FUNDS
☐ FAI ☐ FAP ☐ FAU ☐ FAS ☒ OTHERS Section 210

STAGE 1 * ITEM NOS. ____ THRU ____		STAGE 2 ITEM NOS. 12 THRU ____			
ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS	OTHER IDENTIFICATION AND/OR REMARKS (State)
12	ROS-0008(9)	0.0	$295,200	$265,680	Location: McMinnville, Willamina, Sheridan Area Safety Projects Polk & Yamhill Counties, State of Oregon Work: Adjust signing, lighting, and guardrail and install impact attenuators

RECEIVED
STATE HWY ENGR
MAY 30 '75
REFER TO
FOR
Init. | Init. | Appr. | Dist. | Sub. | Area | File

RECEIVED
JUN 2 1975
Office of
Assistant State Highway Engineer

REMARKS (Division)

APPROVED
Rulien - IAA
6-3-75

RECOMMENDED
DATE | SIGNATURE AND TITLE

APPROVED
DATE | SIGNATURE AND TITLE

* Stage 1 approval and any authorization to proceed with a Stage 1 project shall not constitute any commitment of Federal funds nor shall it be considered as creating in any manner any obligation on the part of the Federal Government to provide Federal funds for the project.

FHWA-68
(Rev. 6-71)

Br. 16232

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

Robert W. Straub
GOVERNOR

F. B. KLABOE
Administrator of Highways

May 20, 1975

NOTED
E. S. HUNTER

Mr. Glen Green
Division Engineer
Federal Highway Administration
477 Cottage St. NE
Salem, OR 97308

Dear Mr. Green:

McMinnville, Willamina, Sheridan Area
Safety Project - Yamhill Co.

Fitch Inertial Barrier impact attenuators were selected for installation on the subject project for the following reasons.

1. Unrestricted longitudinal space available at the St. Joseph Undercrossing median pier favors use of an extended-length barrier to minimize deceleration forces. The Fitch modules can be spaced out to achieve this extended length with no increase in material or cost.

2. No rigid backup wall is required with the inertial type barrier. Such a wall at this location would pose more of a snagging hazard than does the existing pier.

3. Maintenance personnel in Region 2 are familiar with the use and replacement of fitch modules and have backup units on hand for prompt replacement of any destroyed in service.

This information is supplied to you to comply with the material selection requirements of the Federal-aid Highway Program Manual. Please review our proposal and provide us with your approval and/or comments as soon as possible.

Very truly yours,

Walter J. Hart
Bridge Engineer

RECEIVED
MAY 20 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

L. L. Wallace
Bridge Design Engineer

MEZ/ag
cc E. S. Hunter
L. W. Rulien
V. E. Skoog
J. H. Versteeg

8248

R

PRO 6-2

May 13, 1975

TO G. L. Green, Division Engineer
Federal Highway Administration

FROM L. W. Rulien
Project Management Engineer

SUBJECT Program Data Submission
Project No. ROS-000S(9)

We are submitting program data for one project, Item No. 12, Project No. ROS-000S(9), "McMinnville-Willamina-Sheridan Area Safety Projects", which we desire to have included in the Elimination of Roadside Obstacles Program under Section 210 of Title II as established by the Federal-aid Act of 1973.

It is our present intention to receive bids for this project on June 19, 1975.

Encl.

JG:js

Budget Bureau No. 41-R2067; Approv

U.S. DEPA
BURE

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO H. Q.

FORM PR-1 (REV. 4-61)

5-13-75

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

CARD 2 | REPORT NUMBER: 1 (19)(20) | PROJECT LOCATION (45 typewriter spaces): McMinnville, Willamina & Sheridan Area 21 68 | ADT | PRESENT: N/A | FUTURE: N/A (66) | YEAR (70)(71)(72) | REGION: 10 | STATE NAME: Oregon | ST CO (22)

CARD 3 | CHARACTER OF PROPOSED WORK (35 typewriter spaces): Safety Improvements 26 32 | NATL. FOREST (63)(65) | FH ROUTE NO. (66)(68) | SUPV AGCY (69) | DA CLASSIF. (70) | DA AREA (71) | EMERG. YR. (72)(73) | PL. AUTH YR (74)(75) | PROJECT NUMBER: PREFIX LETTER(S): ROS- 14 23 | NUMBER: 000S 7 | SE

CARD | CLASS OF FEDERAL FUNDS: (Section 210) Elimination of Roadside Obstacles | COUNTY NAME: Polk & Yamhill | CODE: 053 (14) 071 (16)

NAME OF URBAN AREA 17-31 | ROUTE NO. P | FEDERAL-AID: 9 & 23 (22) | STATE: 1W & 39 (36)(37) | U.S. (41)

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK: CLASS	WORK: TYPE (43-46)	STEP (53)	TERMINI (Full description)	MILES (54)(58)	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST (59)(66)	FEDERAL FUNDS (67)(70)	STATE FUNDS	OTHER FUNDS
1	(14-15)	(18)	41	42			McMinnville, Willamina & Sheridan Area					
5					PE							
5					ROW							
5					CONST (CODE) Y002 Y030 Y101		"McMinnville-Willamina-Sheridan Area Safety Projects"	0.0	295,200	265,680	29,520	
							PROJECT TOTALS	0.0	295,200	265,680	29,520	

(116) (123)(124) (125)

CARD 1 | CODE 1 | PREPARED BY

CARD 1 | CODE 14 | PROGRAM APPROVAL DATES

REMARKS: IM 50-1-70, PPM 50-9, FHPM
FHPM 7-7-5 requirements complied with under preliminary engineering proje
Item No. 5, which was approved by the FHWA on December 5, 1974.
NOTE: This project is in Congressional District No. 1.

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

FORM FR-1 (REV. 4-61)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

5-13-75

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

PROJECT LOCATION (45 typewriter spaces)		PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPN CODE	ITEM NO.
McMinnville, Willamina & Sheridan Area	ADT	N/A	N/A		10	Oregon	41	144	12

D WORK (35 typewriter	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.	T. Projects Only POST MI.	DESIG.
vements								ROS-	000S	(9)		

	COUNTY NAME	CODE	PROGRAM STAGE
(Section 210) Elimination of Roadside Obstacles	Polk & Yamhill	053 071	1 OR X 2

ROUTE NO.	FEDERAL-AID	STATE	U.S.
P	9 & 23	1W & 39	

WORK TYPE	STEP	TERMINI (Full description)	MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
PE		McMinnville, Willamina & Sheridan Area						Safety improvements to eliminate or correct roadside obstacles that constitute a hazard to vehicles or to pedestrians.
ROW								
CONST (CODE) Y002 Y030 Y101		"McMinnville-Willamina-Sheridan Area Safety Projects"	0.0	295,200	265,680	29,520		
BY		PROJECT TOTALS	0.0	295,200	265,680	29,520		

APPROVAL DATES

REMARKS IM 50-1-70, PPM 50-9, FHPM 7-7-2 and FHPM 7-7-5 requirements complied with under preliminary engineering project ROS-000S(3), Item No. 5, which was approved by the FHWA on December 5, 1974.
NOTE: This project is in Congressional District No. 1.

-over-

USCOMM DUBCOMM-DC 48908-P61

McMINNVILLE-WILLAMINA-SHERIDAN AREA SAFETY PROJECTS

PROJECT NO. ROS-000S(9)

REMARKS - continued

Unit	Work Type	County Name	County Code	Fed-aid Route	State Hwy.	State Route	Highway Name	M.P.
A	Y002	Polk	053	23	39	18	Salmon River	26.35-26.85
	Y101	Polk	053	23	39	18	Salmon River	
B	Y002	Yamhill	071	23	39	18	Salmon River	34.03
	Y030	Yamhill	071	23	39	18	Salmon River	
C	Y002	Yamhill	071	23	39	18	Salmon River	43.90
D	Y002	Yamhill	071	23	39	18	Salmon River	44.52
E	Y101	Yamhill	071	23	39	18	Salmon River	45.19
F	Y101	Yamhill	071	23	39	18	Salmon River	45.81
G	Y002	Yamhill	071	23	39	18	Salmon River	46.21
H	Y030	Yamhill	071	9	1W	99W	Pacific West	35.2 - 34.92
	Y101	Yamhill	071	9	1W	99W	Pacific West	
J	Y101	Yamhill	071	9	1W	99W	Pacific West	34.15

Data for PR-37:

Code	Type	Est. Cost	Cost Polk Co.	Cost Yamhill Co.
Y002	Traffic Signs	$ 89,000	$17,800	$ 71,200
Y030	Highway Lighting	34,000	-	34,000
Y101	Guardrail-Impact Attenuators	172,200	3,600	168,600

100% on FAP System

8248

R

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE:

February 11, 1975

Salem, Oregon

FROM: R. W. Ellison
Bridge Administration Engineer

TO: Gordon Ballard
Supervising Design Engineer

SUBJECT:

McMinnville, Willamina, Sheridan
Area Safety Projects
Pacific Hwy. W. and Salmon R. Hwys.
Yamhill Co.
Illumination Design Work

I have talked with Region about the subject project and find that the only illumination design work required is as follows:

Hwy.	M.P.	Location	Work
39	43.90	W. McMinnville Int.	Illumination of signs on new sign br.
39	46.21	E. McMinnville Int.	Illumination of signs on new cantilever str.
39	34.03	E. of Sheridan	Install frangible bases under existing light poles

Region will send us a sketch showing pole locations for the last item above.

RWE/ag

cc E. S. Hunter
C. O. Fredrickson
R. Kuehn
D. H. Moehring
L. E. George

RECEIVED
FEB 12 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

8248

R

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE:

Salem, Oregon
February 6, 1975

FROM: R. W. Ellison
Bridge Administration Engineer

SUBJECT:
Highway Interchange
Illumination Warrants

TO: Mr. L. E. George
Traffic Engineer

Please make illumination warrant investigations for the following highway interchanges which are included in upcoming highway safety and construction projects:

Interchange	Project
1. Willamina Interchange	McMinnville, Willamina, Sheridan Safety
2. Lancaster Interchange	25th-Lancaster Sec., Santiam Highway

As usual, we would like recommendations as to disposition of the lighting.

RWE:dh

cc E. S. Hunter
R. L. Schroeder
G. J. Ballard

NOTED
E. S. HUNTER

RECEIVED
FEB 6 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

8250 Chehalem Cr (Newberg) Sec. 1975
Pac. Hwy. W in Newberg
(Grad., pave, struc. & signing) #2

CIA 5285 8-4-75
K.K. 806 3-3-76
C+A 6198 8-18-77

☆U.S. GOVERNMENT PRINTING OFFICE: 1974 — 732 - 820

STATE COPY

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

CC:
OSHD (H S Coulter)
WASH DC (HHO-32)

FINAL ACCEPTANCE REPORT

REGION NO.	REPORT NO.	COUNTY	DIVISION
10	4	Umatilla	Oregon

DATE OF REPORT	REPORT MADE BY		PROJECT NO.
1-31-78	David B. Carter, Area Engineer		ROS-167(8) RF-167(9)
COMPLETION DATE	**ACCEPTANCE DATE BY CONTRACT AGENCY**	**TIME ELAPSED**	**CONTRACT TIME**
March 30, 1977	August 10, 1977	See Below %	1) 100 calendar w/days 2) 250 calen. w/days
APPROVED EXTENSIONS	**LOCATION**		
None	From near the East Limits of Umatilla to the Diagonal Road Intersection		

*The PR-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, has been submitted.
*A copy of the State's materials certificate is attached to the Division office copy of this report.
There is compliance with section 1.23 of the Regulations pertaining to encroachments on the right-of-way.

RECEIVED
STATE HWY ENGR
FEB 3 1978

REFER TO

FOR

Info	Inves	R/D	D/R	Sign	Act	File

REMARKS: *The project has been completed in reasonably close conformity with the approved plans and specifications including authorized changes and extra work.*

2-8-78 cy Keary

SHARPS CORNER-DIAGONAL ROAD SECTION
COLUMBIA RIVER HIGHWAY
Grading & Paving

This project provided for the widening and asphaltic concrete pavement on approximately 7.85 miles of the Columbia River Highway.

The final amount of the original contract items was $362,087.06, or a .73% overrun of the original contract amount. The final project cost including engineering and all changes was $448,325.13.

The contract provided that 1) all work except construction of the Class "C" modified asphalt concrete pavement be completed within 100 calendar workdays, and 2) all work under the contract be completed within 250 calendar work days. The contractor exceeded the time allowed under phase one above by 16 days, and was assessed 16 days of liquated damages or a total of $1600. The contractor used 249 calendar days to complete all the project work.

COPY SENT
FEB 7 1978
Washington

All participating work has been completed.

A final inspection of the project was made on April 11, 1977.

*NOTE: Not applicable for direct federal projects.

ACCEPTANCE OF PROJECT IS RECOMMENDED		ACCEPTED BY FEDERAL HIGHWAY ADMINISTRATION	
SIGNATURE: Original Signed by D. B. Carter David B. Carter		SIGNATURE: Original Signed By G. K. HOSSNER G. K. Hossner	
TITLE: Area Engineer	DATE: 2-2-78	TITLE: Field Operations Engineer	DATE: 2-2-78

FORM FHWA-1446 B (12-73) FORMERLY PR-33E

Previous Editions of PR-33E Will Not Be Used.

8249

STATE COPY

TO BE COMPLETED BY FHWA
MONTHLY TRANSACTION NUMBER: 8-208
PROJECT REPORT NUMBER:
MODIFICATION NUMBER: 1

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT

8-22-77

Form Approved; O M B No. 04-R2089

State: Oregon

County: Umatilla

Project Number: ROS-167(8)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 1975, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 49,238	$ 76,237
Federal funds	$ 44,314	$ 68,613
Other revisions		

This modification is made for the following reasons:

Include additional authorized work.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 22nd day of August, 1977.

Oregon State Highway Division
(Official name of Highway Agency)

By _____

Technical Services Engineer
(Title)

By _____

State Highway Engineer
(Title)

By _____

(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)

For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

5671?

Oregon State Highway Division
Salem, Oregon, August 11, 1977

Federal Aid Project
No. ROS-167(8)

Sharps Corner Section
Columbia River Hwy. in Umatilla County

Revised Project Agreement Estimate.

Type Code Y104
Removal of Obstructions (M.P. 183.79 to M.P. 184.17)

Subtotal on previous estimate of July 8, 1975		$44,762.50
Additional Approved Items		
PA 4 Remove Existing Illumination & Install Illumination System	Lump Sum	22,730.00
SFO 1 Permanent Signing	All Required	1,190.00
		$23,920.00
	Subtotal	$68,682.50
	Engineering	7,554.50
	Total	$76,237.00

Length of Project . . . . . 0.0 Mile

Federal Funds	$68,613.00
State Funds	7,624.00
Total	$76,237.00

Group 2 13%

Prefix No. 30-1030

Contract No. 8249

82-19

STATE COPY

Form Approved; O.M.B. No. 04-R2089

TO BE COMPLETED BY FHWA MONTHLY TRANSACTION NO. 7-26	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION 7-17 **FEDERAL-AID PROJECT AGREEMENT**	STATE: Oregon COUNTY: Umatilla PROJECT NO.: RGS-167(8)

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

US 730, 0.6 mi. W. Jct. SR 32, W. 0.38 mi.

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	5-28-75	0.0
OTHER *(Specify)*		

FUNDS Pro Rata 90%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 49,238	$ 44,314

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E A Nunstedt
Asst. State Highway Engineer
(Title)

By _____
(Title)

By _____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
G. L. Green *(Division Engineer)*

Date executed by Division Engineer 5-28-75

Form PR-2 (Rev. 9-74) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 301(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 8, 1975

Federal-aid Project
No. ROS-167(8)

SHARPS CORNER SECTION OF THE
COLUMBIA RIVER HWY. IN UMATILLA COUNTY

Project Agreement Estimate.

Type Code Y104
Removal of Obstructions (M.P. 183.79 to M.P. 184.17)

Mobilization	All Required (10%)		$ 700.00
Temporary Protection and Direction of Traffic	All Required (25%)		2,500.00
Temporary Signs	280 sq.ft.	5.50	1,540.00
Flagmen	100 hour	13.00	1,300.00
Removal of Structures and Obstructions	All Required (90%)		3,600.00
Watering	4 M-gal.	4.50	18.00
Preparation of Shoulders	0.38 mile	1,000.00	380.00
1" - 0 Aggregate Base	210 ton	3.50	735.00
Class "C" Asphalt Concrete Mixture in Leveling and Base Course	1,000 ton	6.75	6,750.00
Class "C" Mod. Asphalt Concrete Mixture	1,200 ton	7.25	8,700.00
Asphalt Cement in Mixture	150 ton	81.00	12,150.00
Portland Cement Additive in Class "C" Mod. Mixture	12 ton	55.00	660.00
Asphalt in Tack Coat	4 ton	150.00	600.00
Guard Rail, Type 2A	125 lin.ft.	10.30	1,287.50
Guard Rail Anchors, Type 1	2 only	200.00	400.00
Rail End Pieces, Type C	2 only	150.00	300.00
Extra for Asphalt Approaches	4 only	65.00	260.00
Guide Posts	46 only	14.00	644.00
			$42,524.50

Additional Items

Permanent Pavement Striping (S.F.)	All Required (34%)	$ 1,020.00
Stage Construction Striping (S.F.)	All Required (34%)	1,020.00
Temporary Erosion Control (E.W.)	All Required (11%)	110.00
On-the-Job Trainee (1 @ $800)	All Required (11%)	88.00
		$ 2,238.00
	Subtotal	$44,762.50
	Engr. & Cont.	4,475.50
	Total	$49,238.00

Length of Project - - - - - 0.0 mile

Retain in Program Status

Permanent Signing	All Required	$ 3,000.00
Roadside Seeding and Mulching	All Required (11%)	110.00
Adjusting Illumination	All Required (100%)	3,750.00
	Subtotal	$ 6,860.00
	Engr. & Cont.	686.00
	Total	$ 7,546.00

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway	$49,238.00	$44,314.00	$4,924.00
Retain in Program	7,546.00	6,791.00	755.00
Totals	$56,784.00	$51,105.00	$5,679.00

Group 2 - 13%

Prefix: 30-1030

Contract No. 8249

8249

August 17, 1977

U.S. Fidelity & Guaranty Co.
520 S.W. 6th Avenue
Portland, OR 97204

Gentlemen:

On August 12, 1977, we wrote to you concerning release of final payment on Contract No. 8249 awarded to L. W. Vail Co., Inc. for work on the Sharps Corner-Diagonal Road Section of the Columbia River Highway in Umatilla County.

Final payment on this contract is $1,000 and the total contract amount is $380,071.73 including $1,577.89 for work performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

dda

cc L. W. Vail Co., Inc.
P. O. Box 847
Pasco, WA 99301

U.S. Fidelity & Guaranty Co.
100 W. Harrison Plaza
Seattle, WA 98119

bc C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
Wendell Schwartz

8249 2

FORM 81-736-3001

OREGON STATE HIGHWAY DIVISION

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE SECTION

	SECTION: Sharps Corner-Diagonal Rd.	WEEK ENDING: June 25, '77 FINAL #97
	HIGHWAY: Columbia River	SECTION PREFIX: 30-1030
		COUNTY: Umatilla
NAME OF JOB: Sharps Corner-Diagonal Road	KIND OF WORK: Grade, Pave & Illumination	
CONTRACTOR: L. W. Vail Co. Inc.	CONTRACT NUMBER: 8249	FEDERAL AID PROJECT NUMBER: RDS-167(8) & RF-167(9)
DATE OF CONTRACT: June 24, 1975	DATE WORK STARTED: Aug. 11, '75	ESTIMATED COMPLETION DATE:
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 0 SUPERVISION: 0	SPECIFIED WORK DAYS: B) 250 calendar	WORK DAYS USED: B) 249 calendar
	SPECIFIED CALENDAR DAYS: A) 100	CALENDAR DAYS USED: A) 116
PROJECT AUTHORIZATION: $459,148.78	SPECIFIED COMPLETION DATE:	PERCENT OF TIME ELAPSED: 104
EXCLUSIVE OF ENGINEERING: $414,148.78	ENGINEERING AUTHORIZATION: $45,000.00	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $387,910.83	ENGINEERING COST TO DATE: $56,356.44	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 97
ESTIMATED PERCENT: OVERRUN / UNDERRUN: Under 6 %	PERCENT OF AUTHORIZATION: 125 %	DATE PROJECT WAS COMPLETED: MARCH 30, 1977

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.	ILLUMINATION
		100	100		100	100

	GRADING	SURFACING	MAINTENANCE MATERIALS	[illegible] MASONRY	PAVING
MILES IN PROJECT	7.85	7.85			7.85
MILES PARTIALLY COMPLETED					
MILES COMPLETED	7.85	7.85			7.85
TOTAL ESTIMATED QUANTITIES (CONTRACT)	3,300 CY	6,000 Ton			21,700 Ton
TOTAL QUANTITIES CORRECTED TO DATE	8,041	7,888			20,593
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	8,041	7,888			20,593
AVERAGE DAILY QUANTITIES This week	0	0			0
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME	0	0			0
NUMBER OF SHIFTS PER DAY	0	0			0
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK: None

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED A)	WORK DAYS CHARGED B)	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Fair-Hot	0	0		
MONDAY	Pt. fair-warm	0	0		
TUESDAY	Pt. fair-warm	0	0		
WEDNESDAY	Pt. fair-warm	0	0		
THURSDAY	Pt. fair-Hot	0	0		
FRIDAY	Pt. fair-Hot	0	0		
SATURDAY	Forecast-fair	0	0		

Portland
Keasey K
Bond B
Jackmond
Harwood
Johnsen E
Walker

RECEIVED
JUN 27 1977
CONSTRUCTION
SECTION

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK	
SUNDAY	No activity.
MONDAY	No activity.
TUESDAY	No activity.
WEDNESDAY	No activity.
THURSDAY	No activity.
FRIDAY	No activity.
SATURDAY	

REMARKS

The semi-final estimate & other data for this project was submitted to the Region Office this week. This will be the final report for this contract.

SIGNED J. R. Hagedorn LOCATION Hermiston

PRIME RESIDENT SUBMIT 2 COPIES WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP-F216

8 2 d 4

STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER: 10-47 & 10-48		State: Oregon
PROJECT REPORT NUMBER:	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County: Umatilla
MODIFICATION NUMBER: 2	10-18-76	Project Number: RF-167(9)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 366,037	$ 370,000
Federal funds	$ 286,204	$ 317,460
Other revisions		

This modification is made for the following reasons: To include increase in construction engineering and to increase federal aid pro rata to 85.8% (Clause "B") which results in a decrease in previous 100% funding under PL 94-30 to a net of $51,978

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 18th day of October, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By _____

Deputy State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
for: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

68717

OREGON STATE HIGHWAY DIVISION
Salem, Oregon October 8, 1976

Federal Aid Project
No. RF-167(9)

McNary Dam-Diagonal Road Section

Columbia River Hwy. In Umatilla County

Revised Project Agreement Estimate.
Type Code 6201
Grade, Pave and Safety (MP 185.78 to MP 191.64)

Subtotal on previous estimate of July 8, 1975		$322,500.00
	Engineering	47,500.00
	Total	$370,000.00

Length of Project - - - - - - - - 5.86 miles
Cost of Roadway per mile- - - - - $63,139.93

*Federal Funds- - - - - - - - - - -	$317,460.00
State Funds- - - - - - - - - - - -	52,540.00
TOTAL	$370,000.00

Group 1 - 87%
Contract No. - 8249
Prefix - 30-1030

*Increase Federal Aid Pro Rata to 85.8%

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 5-153	5-13-76	State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Umatilla
MODIFICATION NUMBER 1	STATE COPY	Project Number RF-167(9)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 266,037	$ 366,037
Federal funds	$ 286,204	$ 366,037
Other revisions		

This modification is made for the following reasons:
The Project Agreement executed July 17, 1975 is modified to increase Federal-aid participation to 100 percent in accordance with PL 94-30. Such additional Federal Funds requested total $ 79,833."
All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 13th day of May, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By C. J. Hunter

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)

For: G. L. Green

GPO 895-813

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

2119 STATE COPY R

Form Approved; O.M.B. No. 04-R2089

TO BE COMPLETED BY FHWA MONTHLY TRANSACTION NO. 7-127	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION 7-17-75 **FEDERAL-AID PROJECT AGREEMENT**	STATE OREGON COUNTY Umatilla PROJECT NO. RF-167(9)

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

US 395 & 730, McNary to Jct. Ore. 207

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	7-28-75	5.86
OTHER *(Specify)*		

FUNDS Pro Rata 78.19%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 366,037	$ 286,204

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By D Wuster
Asst. State Highway Engineer
(Title)

By _____
(Title)

By _____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
G. L. Green *(Division Engineer)*

Date executed by Division Engineer _____

Form PR-2 (Rev. 9-74) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 301(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 8, 1975

Federal-aid Project
No. RF-167(9)

McNARY DAM-DIAGONAL ROAD SECTION
COLUMBIA RIVER HWY. IN UMATILLA COUNTY

Project Agreement Estimate.

Type Code 6201
Grade, Pave and Safety (M.P. 185.78 to M.P. 191.64)

Mobilization	All Req. (90%)		$ 6,300.00
Temporary Protection and Direction of Traffic	All Req. (75%)		7,500.00
Temporary Signs	420 sq.ft.	5.50	2,310.00
Flagmen	160 hour	13.00	2,080.00
Pilot Car	100 hour	16.00	1,600.00
Removal of Structures and Obstructions	All Req. (10%)		400.00
General Excavation	3,300 cu.yd.	2.50	8,250.00
Obliteration of Roadway	All Req.		500.00
Watering	176 M-gal.	4.50	792.00
Preparation of Shoulders	5.34 mile	1,000.00	5,340.00
1" - 0 Aggregate Base	5,790 ton	3.50	20,265.00
Class "C" Asphalt Concrete Mixture in Leveling and Base Course	8,100 ton	6.75	54,675.00
Class "C" Mod. Asphalt Concrete Mixture	11,400 ton	7.25	82,650.00
Asphalt Cement in Mixture	1,350 ton	81.00	109,350.00
Portland Cement Additive in Class "C" Mod. Mixture	114 ton	55.00	6,270.00
Asphalt in Tack Coat	30 ton	150.00	4,500.00
Extra for Asphalt Approaches	20 only	65.00	1,300.00
Guide Posts	204 only	14.00	2,856.00
			$316,938.00

Anticipated Items

Permanent Pavement Striping (S.F.)	All Req. (66%)	$ 1,980.00
Stage Construction Striping (S.F.)	All Req. (66%)	1,980.00
Temporary Erosion Control (E.W.)	All Req. (89%)	890.00
On-the-Job Trainees (1 @ $800)	All Req. (89%)	712.00
		$ 5,562.00

Subtotal	$322,500.00
Engr. & Cont.	43,537.00
Total	$366,037.00

Length of Project - - - - - 5.86 Miles
Cost of Roadway Per Mile- - $62,463.65

Retain in Program

Permanent Signing (S.F.)	All Req.	$ 500.00
Roadside Seeding and Mulching (E.W.)	All Req. (89%)	890.00
	Subtotal	$ 1,390.00
	Engr. & Cont.	187.00
	Total	$ 1,577.00

SUMMARY OF FUNDS

Description	Total Cost	Fed. Funds	State Funds
Roadway	$366,037.00	$286,204.00	$ 79,833.00
Retain in Program	1,577.00	1,233.00	344.00
Totals	$367,614.00	$287,437.00	$ 80,177.00

Group 1 - 87%

Prefix: 30-1030

Contract No. 8249

5219

DATE: May 18, 1976

TO: Oregon Transportation Commission

FROM: F. B. Klaboe, Assistant
Director for Operations

SUBJECT: Sharps Corner-Diagonal Road
Contract No. 8249
Request for Increase in Authorization

An overrun of 7.73 percent, or $32,942.09, is now expected on this project.

This project is on the Columbia River Highway in Umatilla County and includes 7.85 miles of overlay paving with some widening and safety work. L. W. Vail is the contractor and the project is about 42 percent complete, with the toplift paving the major item remaining.

A price agreement revision of the illumination at Sharps Corner (Umatilla Bridge connection) is the main reason for this overrun. The project authorization included $3,750 for revising the existing illumination at this intersection. It was found that the old existing wood pole luminaires would be too close to the new pavement and should be set back. The revised plan provides new metal breakaway poles at new locations and upgrades the illumination provided. This costs an additional $18,980.

An overrun in the contract general excavation quantity is also significant. The plan quantity of 3,300 cubic yards has increased to 8,200 due to more earth work needed in the vicinity of the Diagonal Road intersection for pavement widening and an added deceleration lane. Smaller increases in the bid items for watering, flagging, and an overrun in the engineering also contributed to the overrun.

Your approval is requested for an increase of $32,942.09 to a new total project authorization of $459,148.78. This is a federal-aid funded Roadside Obstacle and Primary project and the overrun work is federal-participating.

This item will be on the agenda for your consideration at the May 25 meeting.

bc: C. W. Head
E. S. Hunter
Carl Williams
Robert Burco
C. T. Keasey
George Bell
H. S. Coulter
V. E. Skoog

JAB:fr srb

FORM 81-734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

May 14, 1976

FILE: CON 5 #8249

FROM: John A. Bond
Construction Administration Engineer

TO: H. S. Coulter
Assistant State Highway Engineer

SUBJECT: Sharps Corner-Diagonal Road
Contract No. 8249
Request for Increase in Authorization

Herewith Form E-372 showing an expected 7.73 percent overrun, or $32,942.09 on this project.

This project is on the Columbia River Highway in Umatilla County and includes 7.85 miles of overlay paving with some widening and safety work. L. W. Vail is the contractor. The project is about 42 percent complete with the toplift paving the major item remaining.

Price Agreement No. 4 which revised the illumination at Sharps Corner (Umatilla Bridge Connection) is the main reason for this overrun. The project authorization included $3,750 for revising the existing illumination at this intersection. When it was found that the old existing wood pole luminaires would be too close to the new pavement, a revised plan was requested for new metal breakaway poles and at new locations further from the pavement. This costs an additional $18,980.

An overrun in the contract general excavation quantity is also significant. The plan quantity of 3,300 cubic yards has increased to 8,200 due to more earth work needed in the vicinity of the Diagonal Road intersection for pavement widening and an added deceleration lane.

Smaller increases in the bid items for watering, for flagging and an overrun in the engineering also contributed to the overrun. I have also added an item of $5,000 for contingencies on the remaining work.

A rough draft letter to the Transportation Commission is attached requesting an increase to a new total project authorization of $459,148.78. This is a Federal-aid funded Roadside Obstacle and Primary project and the overrun work is participating.

JAB:fr

Att.

cc: Robert Church

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE:

La Grande, Oregon
April 19, 1976

FROM: Dale D. Allen
Regional Construction Engineer

TO: C. T. Keasey
Construction Engineer

SALEM

SUBJECT: Expected Overrun of
Project Authorization
Sharps Corner-Diagonal Road
Umatilla County
Contract 8249
ROS-167(8) and RF-167(9)

Attached are 5 copies of the Expected Overrun of Project Authorization forms for the above project.

At the present time it is anticipated that this project will overrun 7.3% or an estimated $28,982.09. There are three principal reasons for this overrun. They are:

1. Price Agreement No. 4 for $22,730.00 for removal of the existing wood illumination poles and installing four metal break-away poles.

2. Increase in general excavation from 3,300 cubic yards to 8,200 cubic yards, due to an error in the plans and a design revision. This work amounted to an increase of $12,250.00.

3. Engineering. $33,796.13 was allocated. It is estimated that the final cost of engineering will be $45,000.00.

Your approval is requested.

DDA:je
Attachments

cc: J. R. Hagedorn

Routing

Keasey — RECEIVED — Richards
Bond — Glenn
Jackmond — APR 20 1976 — Berg
Harwood
Johnsen — CONSTRUCTION
Walker — SECTION

8249

NOTED
E. S. HUNTER

LRW LAG 66 1-26-76 8.35 AM

132-H R L SCHROEDER

RE YOUR LETTER OF 12-17-75 CONCERNING COMPLAINT FROM MR. PELISSIER ABOUT THE INTERSECTION OF ORE 207 AND US 395...

JOHN HAGEDORN WAS FINALLY ABLE TO CONTACT MR PELISSIER AND EXPLAINED THIS WAS UNDER CONTRACT AND THAT WE WERE STILL STUDYING THE INTERSECTION. HE WAS ASKED TO COME INTO HAGEDORNS OFFICE TO LOOK AT SEVERAL DESIGNS. THE CONTRACT, SHARPS CORNER-DIAGONAL ROAD WILL BE COMPLETED NEXT SUMMER.

BOB ALDRICH
SH 3/4.

RECEIVED
STATE HWY ENGR
JAN 26 '76
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

RECEIVED
JAN 26 1976
Office of
Assistant State Highway

NOTED
R. L. SCHROEDER

December 17, 1975

Mr. Edward V. Pelissier
Route 3, Box 415
Hermiston, Oregon 97838

432-H

Dear Mr. Pelissier:

In reply to your recent letter, our Regional Engineer in La Grande will make an investigation of the intersection of ORE207 and US395 and recommend any necessary corrections.

Mr. Schwartz or his representative will contact you in the near future to discuss the problem. If you have any further information for us, the Highway Division Office is located at 2111 Adams Avenue, LaGrande 97850, telephone 963-3177.

Thank you for bringing this matter to our attention.

Very truly yours,

R. L. Schroeder
Assistant State Highway Engineer

RLS:js

bc: F. B. Klaboe
E. S. Hunter
L. E. George
W. E. Schwartz - Conduct investigation, make contact and report back.

Hermiston, Oregon
11 December 1975

Engineer in Charge
Engineering Branch
Department of Highways
State of Oregon
Salem, Oregon 97300

Several years ago I wrote your office regarding ~~an~~ a very dangerous situation west of Irrigon, Oregon. Your Department acted very promptly and perhaps saved a life. I was extremely grateful that an ordinary citizen with no engineering experience should receive such immediate attention. The following is another situation I think you may wish to examine very closely.

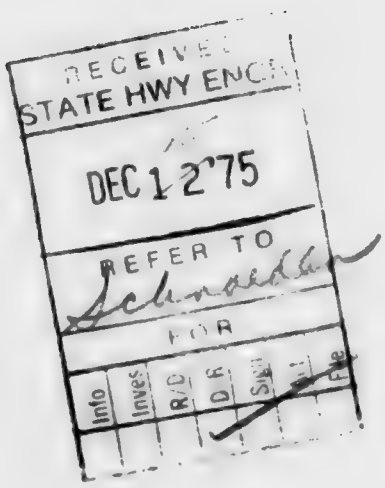
Yesterday I was North Bound on Hiway # 207. I was following a large Tractor/Trailor rig. At the intersection of U.S. Highway 395 and Highway 207 the Truck took the 395 south (left) turn towards Umatilla. I was amazed to find that when he stopped for the stop sign his trailer was still in the Hermiston lane of hiway 207. On top of this there was no place at all for me to go as I wanted to make the same turn.

Many people do not believe the left turn from hiway 207 at the point mentioned is very important however they do not consider that this is the route used by wheat trucks to the Umatilla Elevator also by Potato trucks from this area bound for Boardman and by most people who are going to the Tri-Cities, Umatilla Bridge and Portland from the Columbia District around Hermiston.

I hope you will give this matter your careful attention.

Sincerely,
Edward V. Pelissier

Edward V. Pelissier
Route # 3 Box 415
Hermiston, Oregon 97838



RECEIVED
DEC 16 1975
Office of
Assistant State Highway Engineer

NOTED
R. L. SCHROEDER

OREGON STATE HIGHWAY DIVISION

Order for State Force Work

Contract No. 8249

APPLYING TO CONTRACT PROJECTS

Order No. 1

Section Sharps Corner – Diagonal Road Date September 12, 19 75

Highway Columbia River F.A.P. No. ROS-167(8) & RF-167(9)

County Umatilla Prefix 30-1030 Account No. 276-01

Description of Work To Be Done:

Permanent Signing.

Approval Recommended as of 9/22/75

APPROVED EFFECTIVE DATE 10/3/75
Contingent upon modification of project agreement if additional funds are required
BY D. K. Hosmer
TITLE Dist Engr.
DATE 10/3/75
FEDERAL HIGHWAY ADMINISTRATION

Location by Station Numbers:

Throughout project.

Estimate of Quantities and Costs:

$3,500.00

All charges for work done by Highway Division Traffic Sign Crew will be made on an actual cost basis.

Explanation: Work to be done by state forces. Funds authorized in additional anticipated items for this contract.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After final approval, two copies will be sent to the Regional Engineer and one copy to the Resident Engineer.

Project authorization	$ 426,206.69
Present estimate of project cost, including $ 3,500.00 for work under this order	$ 426,206.69
Expected under-run / over-run (amount)	$ 0
Expected under-run / over-run (per cent)	0

Space to right of this line is for use of Salem Office

Submitted by: J.R.Hagedorn By J. R. Burns
Asst. Resident Engineer

Approval Recommended: Dale Dalton
Regional Engineer
REGIONAL CONSTRUCTION ENGINEER

Approval Recommended: ..... For: Construction Engineer or Bridge Engineer

Approved: [signature] Construction Engineer

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

8249 5-28-75

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.
-167(8) & RF-167(9)

STATE PROJECT NO.
Sharps Corner-Diagonal Road

FROM:
Mr. G. L. Green, Division Engineer
Salem, Oregon

PROGRAM NO.

ITEM NO.
ROS-13 & RF-52

COUNTY NAME
Umatilla

PROGRAM STAGE (Check)
☐ 1. ☒ 2.

TO:

Mr. F. B. Klaboe
Administrator & State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
JUL 7'75
REFER TO
FOR

Info	Inves	R/D	D/R	Sign	Act	File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
May 28, 1975	May 28, 1975	Primary Route 18	Primary Route 2

GENERAL LOCATION:
US 395 and 730 McNary to Jct Ore 207 and US 730, 0.6 miles West Jct SR 32

NOTED
E. S. HUNTER

GENERAL DESCRIPTION OF WORK:
Removal of roadside obstacles, grade, drain, and high type pavement

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

☐ PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY

☐ PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION

☒ OTHER (Specify)

Permanet Pavement Striping	$3,000
Stage Construction Striping	$3,000
Temporary Erosion Control	$1,000
On the Job Training	$ 800

☐ ACQUISITION OF RIGHT-OF-WAY

☒ CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS

☐ CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

After concurrence in award you are authorized to proceed with those items listed above as shown in your estimate.

Mr. Rulien's May 23, 1975 request and certifying statements are accepted.

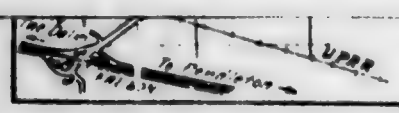
PS&E documents for the subject project have been reviewed and are approved.

A signed Title Sheet is returned herewith.

7-7-75
ORIGINAL TO
L.W. Rulien
w/att

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
5-28-75	G. K. Hosmer	Division Engineer

FORM PR-1240 (REV. 6-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED



PROJECT ROS-13

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Revision No. 6-23

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS

(PPM 21-1)

STATE HIGHWAY DEPARTMENT

DATE: [illegible]-75

BY (Signature): [illegible], May [illegible], 1975 -Letter

TITLE: Project Maintenance Engineer

CLASS OF FEDERAL FUNDS

☐ FAI ☐ FAP ☐ FAU ☐ FAS ☒ OTHERS Section 219

STAGE 1 * ITEM NOS. _____ THRU _____

STAGE 2 ITEM NOS. _____ THRU _____

ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS
13	ROS-167(8)	0.0	54,000	48,600

OTHER IDENTIFICATION AND/OR REMARKS (State)

Location	Work
Sharps Corner Section Umatilla County State of Oregon	Removal of Obstructions

RECEIVED
STATE HWY ENGR
MAY 30 '75
DEPUTY

RECEIVED
JUN 2 1975
Office of
Assistant State Highway Engineer

REMARKS (Division)

Ruling - TAS
6-3-75

RECOMMENDED
DATE | SIGNATURE AND TITLE

APPROVED
DATE | SIGNATURE AND TITLE

* Program approval and any authorization associated with a Stage 1 project shall not constitute any commitment of Federal funds or shall it be a contract relating to any Federal obligation on the part of the Federal Government to participate in Federal funds for the undertaking.

GPO 915-890

FHWA-71) 3

5-28-75

8249

8249

PRO 6-2

Robert W. Straub
xxxxxxxxxx

May 20, 1975

TO Mr. G. L. Green, Oregon Division Engineer
Federal Highway Administration

FROM L. W. Rulien
Project Management Engineer

SUBJECT Program Data Submission
Project No. ROS-167(8)

We are submitting program data for one project, Item No. 13, Project No. ROS 167(8), "Sharps Corner Section", which we desire to have included in the Elimination of Roadside Obstacles Program under Section 210 of Title II as established by the Federal Aid Act of 1973.

It is our present intention to receive bids for this project on June 19, 1975.

DAR:ljt

Att.

Budget Bureau No. 41-R2067; Approval

U.S. DEPART
BUREA

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO B. O.

FORM PR-1 (REV. 4-61)

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

May 20, 1975

CARD 2 | REPORT NUMBER: 1 (19)(20) | PROJECT LOCATION (45 typewriter spaces): US 730, 0.6 mi W. Jct. SR 32, W. 0.38 mi. 21 68

ADT | PRESENT: 4,500 | FUTURE: 7,600 (66) | YEAR: 95 (70)(71)(72) | REGION: 10 | STATE NAME: Oregon | STATE CODE: 4 (73)

CARD 3 | CHARACTER OF PROPOSED WORK (35 typewriter spaces): Removal of Obstructions 26 62 | NATL. FOREST (63)(65) | FH ROUTE NO. (66)(69) | SUPV AGCY (69) | DA CLASSIF. (70) | DA AREA (71)(72) | EMERG. YR. (73) | PL. AUTH YR (74)(75)

PROJECT NUMBER: PREFIX LETTER(S): ROS- 14 23 | NUMBER: 167 7 | SEQ.: (8

CARD | CLASS OF FEDERAL FUNDS: (Section 210) Elimination of Roadside Obstacles

COUNTY NAME: Umatilla | CODE: 059 (14)(16)

ROUTE NO. P | FEDERAL-AID: 18 (32) | STATE: 2 (36)(37) | U.S.: 730 (41)

NAME OF URBAN AREA: - - - 17-31

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	STEP	TERMINI (Full description)	MILES	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS
	(54)	(58)			42 43 46	53		(54) (58)	(59) (66)	(67) (76)		
1	(1445)	(16)	41	42	PE		US 730, 0.6 mi. W. Jct. SR 32, W. 0.38 mi. "Sharps Corner Sect."					
5					ROW							
5					CONST (CODE) Y104			0.0	54,000	48,600	5,400	
							PROJECT TOTALS	0.0	54,000	48,600	5,400	

(10) (22)(24) (33)

CARD 1 | CODE 1 | PREPARED BY

1 | 14 | PROGRAM APPROVAL DATES

REMARKS

IM 50-1-70, PPM 50-9, FHPM 7-7-2 and FHPM 7-7-5 requirements complied with under
engineering project ROS-000S(3), Item No. 5, which was approved by the FHWA on
NOTE: This project is in Congressional District No. 2

Re
co
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to
pr

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

FORM PR-1 (REV. 4-61)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

May 20, 1975

PROJECT LOCATION (45 typewriter spaces)		PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPN CODE	ITEM NO.
US 730, 0.6 mi W. Jct. SR 32, W. 0.38 mi.	ADT	4,500	7,600	95	10	Oregon	41	144	13

PROPOSED WORK (35 typewriter spaces)	NATL. FOREST	FH ROUTE NO.	SUPV AREA	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.	I. Projects Only POST MI.	DESIG.
Obstructions								ROS-	167	(8)		

PROJECT DESCRIPTION	COUNTY NAME	CODE	PROGRAM STAGE
(10) Elimination of Roadside Obstacles	Umatilla	059	1 OR XX 2

ROUTE NO.	FEDERAL-AID	STATE	U.S.
P	18	2	730

WORK TYPE	STEP	TERMINI (Full description)	MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
PE		US 730, 0.6 mi. W. Jct. SR 32, W. 0.38 mi.						Removal of existing concrete islands, raised traffic markers and incidental work common to this type of project.
ROW								
CONST (CODE) Y104		"Sharps Corner Sect."	0.0	54,000	48,600	5,400		
BY		PROJECT TOTALS	0.0	54,000	48,600	5,400		

ESTIMATED PROJECT COST BY PHASES

APPROVAL DATES

REMARKS

IM 50-1-70, PPM 50-9, FHPM 7-7-2 and FHPM 7-7-5 requirements complied with under preliminary engineering project ROS-000S(3), Item No. 5, which was approved by the FHWA on 12/5/74.
NOTE: This project is in Congressional District No. 2

-OVER-

USCOMM DUSCOMM-DC 48908-P61

SHARPS CORNER SECTION

Project No. ROS-167(8)

Existing Facility: Consists of bituminous surfaced channelized section varying 20 feet to 53 feet in width with left-turn refuge lanes for both eastbound and westbound traffic, delineated by raised concrete islands and raised traffic markers.

Project Data: The work consists of removal of existing concrete channelizing islands and raised traffic markers and incidental items common to this type of project; e.g., grade, drain, high-type pavement overlay, shoulder improvement, restoration of channelization by striping, etc.

NOTE: (1) On-the-job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at P.S. & E. stage and the number stipulated in the P.S. & E. documents.

(2) The work under this project is to be accomplished under the same contract as Project No. RF-167(9). The overall contract will be known as "Sharps Corner-Diagonal Road Section".

82:49

FORM 81.736.3080

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

SALEM, OREGON

May 16, 1975

FILE: PRO 4-3

FROM: L. W. Rulien
Project Management Engineer

TO: Mr. E. S. Hunter
Assistant State Highway Engineer

SUBJECT: Project Assessment
Sharps Corner-Diagonal Road Sect.
Columbia River Highway
Umatilla County

Attached for your information is an assessment, concurred in by the FHWA.

Project Management classifies this section as a Category 3 project of non-major action.

Your approval will place this project in our Project Management System and allow its development in accordance with Action Plan procedures.

BLG:ljt
Attach.

cc: J. B. Boyd (3)
L. E. George
W. J. Hart
C. T. Keasey
J. H. Versteeg
Victor D. Wolfe
G. A. Potter (2)
Gary Sund
R. E. Royer
County/City Unit
D. E. Swan
B. L. Gifford
Region 5 : W. E. Schwartz
District 12 : H. W. Oswald

APPROVED
E.S.H.
E. S. Hunter
Date 5-20-75

5-20-75
ORIGINAL TO
L.W. Rulien
w/att.

RECEIVED
MAY 16 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

Oregon State Highway Division

PROJECT ENVIRONMENTAL ASSESSMENT

Date April 23, 1975

A. PROJECT IDENTIFICATION

Name of Project Sharps Corner-Diagonal Road (Section) RF-167(-)

Location of Project Columbia River Highway (Highway Name) Ore 2 (Highway No., US - ORE)

(City) Umatilla County (County) V (Region)

Program FA (Funding) $200,000 (Estimated Cost) (Prefix)

B. PURPOSE AND ORIGIN OF PROJECT

Purpose: The project consists of widening the pavement from 30 ft. to 40 ft.; overlaying the travel lanes with asphaltic concrete; constructing, flatening and shaping shoulders; removal of existing concrete islands; rechannelization of traffic, minor widening and signing at Sharp's corner. (Con't on page 1A)

Origin and History: On the overall roadway relatively heavy traffic coupled with existing road conditions constitute a safety hazard. Sharp's Corner is the insection of Columbia River Highway and Brownell Blvd., which links the highway with the Umatilla Bridge.

C. DESCRIPTION OF PROJECT

Length Approximately 7.4 miles

Termini M.P. 184.03 to M.P. 191.4

Alignment ☐ New ☒ Existing ☐ Combined

CATEGORY 3 PROJECT
NON-MAJOR

(Form (1) 9-74)

(Con't)

Widening other than at the intersection will take place on the south side of the highway only. Existing shoulders on the north side would be flattened and shaped.

'Description of Project (cont.)

Right-of-Way (acreage and type of land use) No new right-of-way is required for this project.

Typical Section Two twelve foot travel lanes with eight-foot shoulders.

Structures None

Characteristics (ADT) ADT at the intersection is 8500 entering vehicles. ADT at M.P. 184. = 3950. ADT at 191 = 2250.

Other General Information (or Supplemental information to items) A recent traffic study emphasized the necessity of improving this intersection. During the study period between January 1971 and June 1974, there were nine persons injured in twelve reportable accidents. Eleven of these were angle or turning collisions.

Although no materials source has been designated, a quarry at M.P. 191.2 has been recommended. (Con't on page 2A)

Project Sketch Map is Attached: ☐ Yes ☒ No

D. LOCATION AND/OR DESIGN ALTERNATIVES (IDENTIFY AND DESCRIBE)

None

E. PUBLIC PARTICIPATION AND INTERAGENCY COORDINATION

Public Hearing(s) Schedule: ☒ Not Required ☐ Required ☐ Recommended

Type _____ Tentative Date(s) _____

A-95 Review: ☒ Not Required ☐ Required

(Con't)

The Highway Division presently applied to the necessary agencies for permits.
No utilities are in conflict with road construction or quarring activities.
No significant adverse effects have been associated with the project.

F. BRIEF ENVIRONMENTAL SETTING OF PROJECT AREA

Natural (Topography, Flora, Soils, Water Features, Drainage, etc.) The area is gently rolling, arid grazing lands. The soils are sandy supporting sparse grasses and sage.

Cultural (Land Use, Noise, Air Esthetics, Utilities, etc.) In general the surrounding area is used for grazing. In the vicinity of Sharp's Corner development consists of a truck stop and service station. One power pole may be in conflict with the project. Noise levels and air quality will not change significantly.

G. PRELIMINARY ASSESSMENT OF ENVIRONMENTAL IMPACTS

1. Estimated Right-of-Way Requirements:

   No new right-of-way required.

   Consequences:

2. Estimated Changes in Traffic Patterns:

   Channelization will be slightly changed however, no significant traffic pattern changes are expected.

   Consequences:

3. Estimated Changes in Land Use:

   No changes in land use are expected.

   Consequences:

4. Expected Adverse Effects on Natural Ecological Resources:

   No adverse effects are anticipated.

   Consequences:

5. Expected Adverse Effects on Cultural and Scenic Resources:

   No adverse effects are anticipated.

   Consequences:

6. Preliminary Identification of Areas of Critical Environmental Concern:
There are no critical environmental concerns.

7. Potential for Controversial Issues:
No controversial issues are involved.

H. STAFF REQUIREMENTS TO COMPLETE ENVIRONMENTAL IMPACT STUDIES AND DOCUMENTATION

ENVIRONMENTAL SECTION -

Personnel	EFFORT REQUIRED*		
	Minimum	Average	Maximum
Biologist			
Urban Economist			
Water Quality Spec.			
Acoustical Engineer			
Air Quality Engineer			
Cultural Geographer			
Urban Planner			
Geologist			

* For the sake of clarification and mutual understanding the terms minimum, average, and maximum effort have been defined as follows:

MINIMUM - Research and Project Management Staff consultation. No formal typewritten report.
AVERAGE - Routine analysis. Short to medium length report including consideration of existing setting, probable impact, and steps to minimize harm.
MAXIMUM - Special detail of analysis. Comprehensive technical report.

I. TYPE OF DOCUMENTATION RECOMMENDED:

- ☐ Draft EIS
- ☐ Final EIS
- ☐ Supplemental Draft EIS
- ☐ Supplemental Final EIS
- ☐ Section 4(f)
- ☐ Negative Declaration
- ☐ State-Wide Negative Declaration
- ☐ Other _____

According to Chapter I of Title 23 CFR, Part 771, this project is deemed a non-major action.

3249

Form FHWA 121 (Rev. 5-73)

R

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: May 13, 1975

In reply refer to: 1041EC.1

SUBJECT: Oregon Project RF-167(-)
Sharps Corner-Diagonal Road
Umatilla County
Project Assessment

FROM : G. L. Green, Division Engineer

NOTED
E. S. HUNTER

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

The subject project assessment submitted with Mr. Rulien's April 25, 1975 letter has been reviewed. We concur with your finding that the proposed project constitutes a non-major action.

It should be understood that our concurrence is only on the type of action. The proposed standards, the design, and other specific details contained in the assessment will be subject to future reviews.

G. L. Green

cc:
OSHD (Potter)
OSHD (Laux)

RECEIVED
STATE HWY ENGR
MAY 14 '75
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

NOTED
E. JOHNS[illegible]

5-15-75
ORIGINAL TO
L.W. Rulien
to handle.

RECEIVED
MAY 14 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

825

STATEMENT OF COSTS INCURRED UNDER PROJECT AGREEMENT

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT	NOTATIONS (Payee must not use this column)
	Chehalem Cr. (Newberg) Section Pacific Highway West Yamhill County					
	Construction					
	Type Code 6203					
	Roadway (-Urban) St. L.S. 9+40 To Sta. LS 22+20					
	Final Contract Payment Summary	Lump Sum			$ 324,183.23	
SFO	SFTC	Lump Sum			8,065.34	
SFO	#3 Permanent Pavement Striping (State)	All Required			1,297.80	
SFO	#5 Temporary Pavement Striping(State)	All Required			808.64	
	Urban Total Participating Construction Type Code 6203				$ 334,355.01	
	Type Code 6203					
	Roadway (Rural)(Sta. L 30+40 thru Eq. 41+62.04 BK=34+5191 Ah to Sta. 35+00)					
	Final Contract Payment Summary	Lump Sum			334,186.04	
SFO	#3 Permanent Pavement Striping (State)	All Required			1,350.77	
SFO	#5 Temporary Pavement Striping (State)	All Required			847.69	
	Rural Total Participating Construction Type Code 6203				$ 336,384.50	
	Type Code X081					
	Chehelem Creek Br. (Bridge No. 2054R)(Sta. LN 22+06 To Sta. LN 30.2680					
	Final Contract Payment Summary	Lump Sum			$1,563,427.58	
	Urban $781,776.04					
	Rural 781,651.54					
	Construction Engineering					
	State	All Required			232,396.52	
	Urban 113,859.02					
	Rural 118,537.50					
	Misc. Project Cost					
	Audit Expense	All Required			433.38	
	Urban $385.00					
	Rural 48.38					
	E.E.O. Monitoring Expense	All Required			66.71	
	Urban $ 32.68					
	Rural 34,03					
	Total Misc. Project Cost				$ 500.09	
	Total Participating Cost				$2,467,063.70	
	Nonparticipating Cost					
	Final Contract Payment Summary	Lump Sum			$ 200.00	
	Construction Engineering	All Required			2,760.66	
	Total Nonparticipating Cost				$ 2,960.66	
	TOTAL PROJECT COST				$2,470,024.36	
	Prepared based on participating costs as shown on Federal Billing as of 6/30/80.					

AMOUNT CARRIED FORWARD .....

GPO 944 892

(MEMORANDUM)

FORM APPROVED BY COMPTROLLER GENERAL, U.S. MAY 12, 1966

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

VOUCHER FOR WORK PERFORMED UNDER PROVISIONS OF THE FEDERAL AID AND FEDERAL HIGHWAY ACTS, AS AMENDED

STATE VOUCHER NO.

FHWA VOUCHER NO.

APPROPRIATION

FHWA SCHEDULE NO.

THE UNITED STATES DR. TO *(Insert official or depositary named in project agreement)*
Treasurer of the State of Oregon

PAID BY

ADDRESS
Capitol Bldg.
Salem, OR 97310

(For use of Paying Office)

STATE
Oregon

VOUCHER TYPE *(Check Appropriate Block)*

☐ CURRENT BILLING

VOUCHER PERIOD
FROM 5-28-78
TO 1-19-78

☐ OTHER PROGRESS X

☐ FINAL VOUCHER (*)

FEDERAL AID PROJECT NO.
U-RF-82(10)

(*) Use Form FHWA-1447 for Final Voucher for a project constructed under certification acceptance or secondary road procedures (23 U.S.C. 117).

	TOTAL ACTUAL COST	TOTAL PARTICIPATING COST	PRO-RATA OF PARTICIPATING COST CLAIMED FROM U.S.	TOTAL AMOUNT CLAIMED FROM U.S.	LESS PREVIOUS PAYMENTS	NET AMOUNT CLAIMED
Urban	$1,232,006.37	$1,230,407.76	86.80%	$1,068,689.86	$1,068,689.86	$ 0.00
Rural	1,238,017.99	1,236,655.94	86.80%	1,061,050.81	1,061,050.81	0.00
	$2,470,024.36	$2,467,063.70	86.80%	$2,116,740.66	$2,116,740.66	$ 0.00

RECEIVED DIVISION OFFICE
BY Oregon DATE

DIVISION OFFICE REVIEW MADE
BY DATE 7/30/80

PASSED FOR PAYMENT
BY V.E. Skeeg, Controller DATE

REMARKS

$ 0.00

FORM PR-20A
(Rev. 5-78)

PREVIOUS EDITIONS ARE OBSOLETE

STATE COPY

8250.5)

FORM APPROVED RCS HNG-30-02
OMB NO. 04-R2274

☆U.S. GOVERNMENT PRINTING OFFICE: 1974 — 732 - 628

STATE COPY

cc: OSHD (H S Coulter)
WASH DC (HHO-32)

1-17-78

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FINAL ACCEPTANCE REPORT

REGION NO.	REPORT NO.	COUNTY	DIVISION
10	2	Yamhill	OREGON
DATE OF REPORT	**REPORT MADE BY**		**PROJECT NO.**
January 17, 1978	Jon Young, Trainee Engineer		U-RF-52(10)
COMPLETION DATE	**ACCEPTANCE DATE BY CONTRACT AGENCY**	**TIME ELAPSED**	**CONTRACT TIME**
October 25, 1976	May 12, 1977	466 = 93.2 % / 500	500 calendar days
APPROVED EXTENSIONS	**LOCATION**		
None	Pacific Highway West at Chehalem Creek in NEwberg		

*The PR-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, has been submitted.
*A copy of the State's materials certificate is attached to the Division office copy of this report.
There is compliance with section 1.23 of the Regulations pertaining to encroachments on the right-of-way.

REMARKS: *The project has been completed in reasonably close conformity with the approved plans and specifications including authorized changes and extra work.*

CHEHALEM CREEK (NEWBERG) SECTION
PACIFIC HIGHWAY WEST
Grading, Paving, Structure, and Signing

This project consisted of the construction of roadbed and asphaltic concrete pavement, an 820-foot bridge over Chehalem Creek, and various signing on a 0.62 mile section of Pacific Highway West.

The final amount of the original contract items was $2,210,012.18 or a 3.0 percent underrun of the original contract amount. The final project cost including engineering and all charges was $2,461,663.19.

All participating work has been completed.

A final inspection of the project was made on October 26, 1976 and December 8, 1976.

RECEIVED
STATE HWY ENGR
JAN 18 '78
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

1-18-78

JAN 16 1978
Washington

*NOTE: Not applicable for direct federal projects.

ACCEPTANCE OF PROJECT IS RECOMMENDED		ACCEPTED BY FEDERAL HIGHWAY ADMINISTRATION	
SIGNATURE: Original Signed By WILLIAM H. KAPPUS Environmental Coordinator / Bill Kappus		SIGNATURE: Original Signed By G. K. HOSSNER Field Operations Engineer / G. K. Hossner	
TITLE: Area Engineer	DATE: 1-17-78	TITLE: DISTRICT ENGINEER	DATE: 1-19-78

FORM FHWA-1446 B (12-73) FORMERLY PR-33E — Previous Editions of PR-33E Will Not Be Used.

STATE COPY

8251 (6)

FORM APPROVED RCS HNG-30-02
OMB NO. 04-R2274

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL HIGHWAY ADMINISTRATION

STATEMENT OF MATERIALS AND LABOR USED BY CONTRACTORS ON HIGHWAY CONSTRUCTION INVOLVING FEDERAL FUNDS

(PPM 20-2 and PPM 40-4)

ALL CARD A — *To be completed by Washington Headquarters Personnel*

PART A *(To be completed by FHWA or State Highway Personnel (See instructions on reverse))*

STATE	COUNTY	FEDERAL PROJECT NO.	URBAN / RURAL
Oregon	Yamhill	U-RF-52(10)	URBAN X / RURAL ( )

ITEM	DESCRIPTION	UNIT	ROADWAY QUANTITY	BRIDGE QUANTITY (Over 20 ft.)	DATE STARTED
	CONSTRUCTION TYPE CODES		6203	x081	July 23, 1975
20	FINAL CONSTRUCTION COST	DOL.	514,585	1,726,356	DATE COMPLETED: October 25, 1976
21	LENGTH OF PROJECT	MILES	.464	.155	TOTAL NO. BRIDGES: 1

PART B *(To be completed by contractor - See instructions on reverse) (REMARKS: Attach plain sheet of paper)*

30	LABOR	TOTAL MAN HOURS: 46,784	GROSS EARNINGS: 468,685

CARD B	22	TOTAL COST OF ALL MATERIALS AND SUPPLIES	DOL.	316,643	1,163,296
	9	PETROLEUM PRODUCTS	GAL.	6,043	15,521
	1	CEMENT	BBL.	20	124
CARD C	2	AGGREGATES PURCHASED	TON.	1,337	
	92		CU. YD.	110	1,276
	3	BITUMINOUS MATERIAL	GAL.		
	4	LUMBER	THSD BD FT		24,500
CARD D	5	TIMBER PILING	LIN. FT.		
	7	REINFORCING STEEL	LB.	5,000	220,500
	8	STRUCTURAL STEEL	LB.		
	10	EXPLOSIVES	LB.		
CARD E	11	READY-MIXED CONCRETE	CU. YD.	150	6,700
	12	PREMIXED BITUMINOUS PAVING MATERIALS	TON	15,764	
	15	AGGREGATES PRODUCED	TON		
	95		CU. YD.		
CARD F	16	MISCELLANEOUS STEEL	LB.	8,872	15,246
	17	FENCING	LIN. FT.		
	18	GUARDRAIL	LIN. FT.	144	
	19	BRIDGE RAIL	LIN. FT.		1,674
CARD G	23	FINAL CONTRACT AMOUNT FOR SIGNS	DOL.	8,349	
	24	FINAL CONTRACT AMOUNT FOR LIGHTING	DOL.		

Blocks 48-70 to be completed by FHWA Washington Headquarters Personnel

48 — 52 | 53 — 61 | 62 — 70

CULVERT ITEMS

CARD	ITEM	SIZE (In.)	LGTH. (Lin. ft.)
CARD H	6	CORRUGATED STEEL CULVERT	
		12	192
		24	159
		30	10
		36	540
CARD J	13	CONCRETE PIPE	
		8	290
		12	1272
		24	8
		30	1389
		18	100
CARD K	14	CLAY PIPE AND DRAIN TILE	
		4	28
CARD L	25	CORR. ALUMINUM CULVERT	
CARD M	26	CAST IRON PIPE	

FORM PR- 47 PREVIOUS EDITIONS ARE OBSOLETE
(REV. 9-74)

INSTRUCTIONS FOR PREPARING AND TRANSMITTING FORM PR–47

GENERAL REQUIREMENTS

Form PR-47 should be transmitted for each highway construction project involving Federal funds except those that consist primarily of the installation of protective devices at railroad grade crossings, those that are constructed on a force account or direct labor basis, Federal-aid Secondary system, highway work under the direct supervision of the Federal Highway Administration, and highway beautification projects financed with 319(b) funds.

Form PR-47 should be transmitted with or in advance of the Final Report required by Federal-Aid Highway Program Manual Vol. 6; Ch. 4; Sec. 2; Sub. Sec. 8.

A separate form should be transmitted for each contract except that data for two or more contracts on the same project may be combined when such contracts are completed at approximately the same time. In case of a combination, the earliest starting date and the latest completion date should be reported. Where a single contract covers more than one project, one form may be prepared, for each project or for the entire contract provided none of the data are duplicated. A Form PR-47 should not be prepared for a contract covering only the purchase of material but the quantity of material should be reported when subsequently included in a construction project. In all cases, **only the original** of Form PR-47, typed or clearly lettered, and **no carbon or "fast" copies,** should be transmitted to the Washington Office.

If nonparticipating work is included in the contract, all data should be combined with the Federal-aid data in preparing the form. Data for any subcontract may be combined by the State or the division office with that for the prime contract if not so combined by the prime contractor. It will be the State's responsibility to see that all prime contract and subcontract costs, material, and man hours have been reported for each contract, and no duplication of data are involved. Quantities of State-furnished materials should be included with contract quantities, and costs of State-furnished materials should be added to Item 20 "Final Construction Cost" and also to Item 22 "Total Cost of All Materials and Supplies". **All quantities should be reported to the nearest whole unit and only in the units specified. All costs should be reported to the nearest dollar.**

Check urban or rural to indicate whether the major cost is for work within an urban area, or in a rural location.

All figures should be verified for reasonableness by State highway department and Federal Highway Administration division office engineers. The total material cost and the total man-hours and gross earnings should bear reasonable relationships to the contract construction amount. Also the quantity of each material reported should be reasonable with respect to the size and nature of the contract and with respect to the quantities of other materials. For example, if a large quantity of reinforcing steel is reported with no cement or ready-mixed concrete, an error of omission in reporting would be indicated.

Generally, the total cost of materials, supplies, and labor should be substantially less than the final construction cost, as the latter also includes costs of equipment ownership, overhead, and profit which are not required to be reported. If the final construction cost is less or only a few percent more than the total cost of materials, supplies and labor, the indication is that the contractor suffered a loss on the project or that there is an error in reporting. In such case, if it is determined that the figures reported are correct, a statement should be made on plain sheet of paper marked "Remarks" to the effect that the contractor actually did suffer a loss.

Part A - INFORMATION TO BE SUPPLIED BY FEDERAL HIGHWAY ADMINISTRATION OR STATE HIGHWAY PERSONNEL (FEDERAL-AID HIGHWAY PROGRAM MANUAL, VOL. 6; CH. 4; SEC. 1; SUB. SEC. 9).

"Final Construction Cost" - Show **best estimate** of Federal and State costs incurred to date for contract items, extra work performed by contractor, and State-furnished materials.

"Length of Project." - Report official roadway mileage and official bridge mileage.

Part B. - INFORMATION TO BE SUPPLIED BY CONTRACTOR IMMEDIATELY UPON COMPLETION OF CONTRACT

Specific Instructions for the Following Numbered Items:

Item 1 - Report number of barrels of cement used on project. Do not report here the cement included in Item 11.

Items 2 and 92 - Report quantity of aggregates purchased from commercial producers, such as sand, gravel, crushed stone, etc. Do not report here, aggregates included in Items 11 and 12. Aggregates produced by the contractor shall be reported as Item 15 or 95.

Item 3 - Report number of gallons of bitumens such as asphalt and tar. Do not report here, bituminous materials included in Item 12.

Item 4 - Report all lumber products purchased for and used on the project, including plywood and pressed wood, but excluding timber piling, lumber in fencing, guardrail, and signs, and lumber purchased for or used on previous projects and previously reported. The quantity of lumber should be reported as the number of **thousand board feet and not as the number of board feet.**

Item 5 - Report timber piling in linear feet, regardless of size.

Item 6 - Report, by size, regardless of class, type, gauge or coating, number of linear feet of corrugated steel pipe, structural plate pipe, pipe-arches and arches.

Item 7 - Report total number of pounds of reinforcement for both structures and pavement. Include estimated quantities of reinforcing and prestressing steel in purchased precast units, except concrete pipe reinforcement.

Item 8 - Report total number of pounds of all structural steel, steel H-piling, and sheet piling.

Item 9 - Report total number of gallons of all gasoline, diesel oil, lubricating oil, and grease for equipment and trucks. For conversion purposes use factor of 8 pounds of grease per gallon.

Item 10 - Report total number of pounds of explosives, exclusive of caps and fuses.

Item 11 - Report total number of cubic yards of ready-mixed concrete plus estimated quantity of concrete in purchased precast units, excluding Item 13.

Item 12 - Report total number of tons of bituminous paving mixtures that are purchased in a prepared condition ready for placement as they reach the job.

Item 13 - Report, by size, regardless of class, type, gauge or coating, total number of linear feet of plain and reinforced concrete drain and culvert pipe.

Item 14 - Report, by size, total number of linear feet of clay pipe and drain tile.

Items 15 and 95 - Report total quantity of aggregates such as sand, gravel, crushed stone, etc., produced by the contractor.

Item 16 - Report estimated total weight of steel products not appropriate for Items 6, 7, and 8, such as joint devices, tubular piling, etc.

Items 17, 18 and 19 - Report total lengths, in linear feet, of all types of fencing, guardrail and bridge rail.*

Item 22 - This should be the total cost, at the jobsite, of all construction materials and supplies purchased for and used on the project, including the cost of materials for signing and lighting and the cost of any materials and supplies not specifically listed hereon. Costs of equipment or equipment rental and the cost of operating the equipment, except the costs of fuel and lubricants, should not be included in this item. Small items of equipment such as jackhammers, handtools, repair parts, tires, etc., are not considered to be supplies. Costs of such items and also overhead costs should not be included. The amount included here for aggregates produced should be only the cost paid by the contractor for the aggregates and should not include the costs of excavating, processing, loading and hauling. Wages and man-hours for aggregates produced should, of course, be included with item 30.

Item 23 - Report final contract amount for all types of signs including foundations, posts, structural supports, etc. Do not include traffic signals.*

Item 24 - Report final contract amount for highway and bridge lighting including foundations, conduits, standards, wiring, switches, luminaires, etc. Do not include traffic signals.*

Item 25 - Report, by size, number of linear feet of corrugated aluminum culvert.

Item 26 - Report, by size, number of linear feet of cast iron pipe.

Item 30 - Report total man-hours worked by, and earnings of all contractor's employees on the project, including those on operation and maintenance of equipment.

*Quantities of steel, concrete and lumber used in connection with Items 17, 18, 19, 23 and 24 should not be reported unless difficulties are encountered in segregating such quantities from total quantities.

GPO 881-120

#9250

August 18, 1977

Board of County Commissioners
Yamhill County
Courthouse
McMinnville, OR 97128

Attention: Wanda Catt
County Clerk

MISC. CONTRACTS and AGREEMENTS No. 6198

Gentlemen:

Attached for your records is a fully executed copy of an agreement providing for closure of two public roads within the limits of the Chehalem Creek (Newberg) Section of the Pacific Highway West.

We have retained a fully executed copy of this agreement for the Transportation Commission's files.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

Att.

cc Don Harwell (agree. att.)

#8250

JAMES A. REDDEN
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 State Office Building
Salem, Oregon 97310
Telephone: (503) 378-6313

July 8, 1977

RECEIVED
STATE HWY ENGR
JUL 11 '77
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

J. B. Boyd
Right of Way Engineer
117 Transportation Bldg.
Salem, Oregon 97310

Re: L-7198 (R-40239) - State v. Winnegar
Chehalem Creek Section Pacific Highway West, Yamhill County

Dear Mr. Boyd:

John Leahy has referred to me your inquiry dated July 5, 1977, relative to acquisition costs for the above-mentioned file. The particular item brought to our attention is "legal (Trial Section) $8,642.84". You observe that the legal expense appears disproportionate and ask for our comments. This project is financed from state bond funds. When the case was filed and assigned to the Trial Division, we were not asked to limit our trial preparation or to meet a particular acquisition budget.

The identification of the $8,642.84 item as "legal (Trial Section" is not realistic from an accounting standpoint. After a condemnation case is filed "non-lawyer charges" are lumped in under a legal prefix. Mr. Henry advised me that the computer printout on which the itemization forwarded is based did not break the charges down further. The Department of Justice computer shows that $4,825.00 was billed for attorney time in this case. The balance of $3,817.84 is for other trial preparation related costs.

It would be necessary to go back into the accounting records to identify the particular charges making up the total of the non attorney time items. However, the two principal other items undoubtedly are appraisal fees for pretrial work and engineering fees by resident engineer Warren Mueller and his crew. I understand that engineering was charged to the legal prefix because Mr. Mueller's engineering budget was insufficient to cover costs.

In this case the area to be taken was revised in mid-stream. Also, the defendants are contesting our computation of the area included within that taking. It was therefore necessary to have a survey made of the subject property by Mr. Mueller's crew. The revised description also required a revised appraisal. It was for that reason necessary to file an amended complaint. Finally, I note that, in addition to the maps and usual aerial exhibit photograph with overlay and trial exhibit maps prepared by Mr. Moisan, we thought it advisable to have aerial oblique photographs taken by Mr. Kinney to meet a particular problem.

Although this is not a large case, the defendants are demanding $38,795.00 for the taking, based on an underlying theory that we are destroying a motel site. We contend that the property is not suitable for that purpose. There are particular problems with the zoning, including evidence that a zone change may have been obtained through misrepresentation of the availability of sewer. There is also a substantial problem with when and how a sanitary sewer will serve the property, including the applicability of various D.E.Q. regulations. We obtained a copy of the "Newberg - Dundee, Sewer System Facilities Planning Report of July 1976" by Westec Engineering, Inc. The availability of funding and anticipated timing of that construction substantially affects the potential of this property.

In preparation for trial it was necessary for Mr. Holland, the appraiser, and Mr. Mueller, to a degree, to resolve zoning and sewer problems affecting their areas of responsibility for the conduct of the trial. Mr. Holland lined up city and county zoning administrators and engineers to back us up on the zoning and sewer problems.

The largest single problem in handling this case has been the informality with which the Yamhill County trial judge handled his trial docket. This case has been set over four times at the request of owners. The first setover was at the informal request of Mr. Marsh without notice to us. The second and most costly was also at the request of Mr. Marsh without notice to us. Mr. Holland and our witnesses were totally prepared to try the case. The first indication we had that it would not be tried was at 4:30 PM the day before trial.

The third setover was also after preparation for trial. On the eve of trial, Mr. Holland worked out a proposed settle-

ment with Mr. Marsh. On the morning of trial, the landowner rejected the settlement and fired Mr. Marsh and the case was set over.

When the case was set for trial for the fourth time, the Court specifically advised us and the property owner that it would definitely be tried on June 7, 1977. In spite of the Court's warning the owner hired Mr. Bemis to try the case only a day or two prior to that trial date. Again the Court relented and set over the trial date. It is now set for August 3, 1977. We anticipate that the case will be tried as scheduled and will hold the remaining costs down as much as possible. We hope for a favorable verdict.

The four setovers covered a time span of ten to twelve months. Unfortunately, with a case postponed on the Courthouse steps there is substantial duplication of much pre-trial preparation, if the setover extends several weeks or months.

In summary, the attorney fee charges and preparation costs are substantial but they are not disproportionate to the problems encountered. This is a tough, nasty case. Mr. Frank Marsh is one of the deans of Oregon's trial lawyers. He is silver haired and silver tongued and in his bailiwick a wheeler-dealer in the George Rhoten sense. Dick Bemis, of course, is a condemnation trial specialist.

With the wisdom of hindsight, corners could have been cut. Some field investigation and legal research on sewer and zoning problems could have been more limited. However, limiting preparation would be a calculated risk in view of the problems and the excessive demands of defendants. I also point out that Mr. Holland's successes over the last fifteen or more years are in a large part attributable to his hard work and attention to detail.

I would suggest in the future that when we are assigned cases with particular "budget problems" we should be advised of the problems in the first instance. We will cooperate in any way we can to limit costs as much as possible.

Sincerely,

Les Hampton

Leslie B. Hampton
Assistant Chief Trial Counsel

bk
cc: E. S. Hunter
John Leahy
Walter Barrie
Bob Holland

825a

7

ROBERT W. STRAUB
GOVERNOR

Oregon State Highway Division

July 5, 1977

John Leahy
Chief Trial Counsel
Justice Department
106 State Office Building
Salem, Oregon 97310

Dear Mr. Leahy:

Re: File No. 40239 - Winnegar
Legal File No. L-7198
Chehalem Creek Section
Pacific Highway West
Yamhill County

On August 13, 1974, the Right of Way Section was authorized to acquire right of way on the Chehalem Creek Section of Pacific Highway West. Only two small parcels of land were required and it was estimated the total acquisition cost would not exceed $6,000. This amount was budgeted from State Bond Funds for the project.

A recent audit indicates that we have now expended a total of $13,540.67. A summary of the expenditures is attached.

Since the only legal case on this project still remains to be tried it would appear that the legal expense is disproportionate.

We would appreciate your comments.

Very truly yours,

J. B. Boyd
Right of Way Engineer

JBB:jc

Attachment
cc: E. S. Hunter
Walt Barrie

RECEIVED
STATE HWY ENGR
JUL 6 '77
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

Form 81-734-3122

8250

ROBERT W STRAUB
GOVERNOR

Oregon State Highway Division

HIGHWAY BUILDING, SALEM, OREGON 97310

June 17, 1977

Peter Kiewit Sons' Co.
1000 Kiewit Plaza
Omaha, NE 68131

Attention: Donald E. Baker
Treasurer

Re: Contract 8250

In accordance with your letter of June 7, 1977 the $1,000 in securities released from this project is being applied to your unallocated account.

Vernon E. Skoog
Controller

by _____
James J. Kinns
Contract Accounting Executive

JJK:mm

bc: C.W. Head
R. Church
C.W. Barrett,Jr.(Att.)

ROBERT W STRAUB
GOVERNOR

Oregon State Highway Division

HIGHWAY BUILDING, SALEM, OREGON 97310

June 2, 1977

Peter Kiewit Sons' Co.
1000 Kiewit Plaza
Omaha, NE 68131

Attention: Donald E. Baker
Treasurer

Re: Contract 8250

This contract has been finalled. This releases the $1,000 deposited in lieu of retainage. This deposit may be released or transferred to another project.

Please notify this office as to the disposition of the deposit.

Vernon E. Skoog
Controller

by _____
James J. Kinns
Contract Accounting Executive

JJK:mm

bc: C.W. Head
R. Church
C.W. Barrett, Jr.

8250

May 31, 1977

The Aetna Casualty & Surety Co.
Bond Department
200 Market Bldg., Suite 1500
200 S.W. Market Street
Portland, OR 97201

Gentlemen:

On May 13, 1977, we wrote to you concerning release of final payment on Contract No. 8250 awarded to Peter Kiewit Sons' Co. for work on the Chehalem Creek (Newberg) Section of Pacific Highway West in Yamhill County.

The total contract amount is $2,211,677.05 including $10,319.80 for work performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

dda

cc Peter Kiewit Sons' Co.
215 South "V" Street
Vancouver, WA 98663

bc C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
John Sheldrake

S 250

ROBERT W. STRAUB
GOVERNOR

Oregon State Highway Division

HIGHWAY BUILDING, SALEM, OREGON 97310

May 2, 1977

Peter Kiewit Sons Co.
1000 Kiewit Plaza
Omaha, Nebraska 68131

Attention: Donald E. Baker
Treasurer

Re: All Contracts

The State Treasurer has issued safekeeping receipt 2426, dated April 25, 1977 covering your $1,140,000 in U.S. Treasury Bonds that mature on November 15, 1980. Future changes in the amount applied to various contracts will be handled by this office per project requirements and your direction when reductions are made or projects are finalled.

I would again like to suggest establishment of an unallocated account so that amounts applied to various projects will more truly reflect the amount deposited in lieu of retainage. Example: At the present time you have $1,044,000 deposited in lieu of retainage on contract 8413. The retainage on this project will probably not exceed $65,000, therefore $979,000 could be classified as unallocated and still applied to new contracts at your direction.

Security Summary:

Contract	Amount
8046	$ 10,000
8058	50,000
8119	25,000
8234	10,000
8250	1,000
8413	1,044,000
	$1,140,000

Vernon E. Skoog
Controller

by _____
James J. Kinns
Contract Payments Executive

NOTED
C. W. HEAD

JJK:mm

cc: Oregon State Treasurer

bc: C.W . Head
R. Church
C.W. Barrett (Att.)

8250

ROBERT W. STRAUB
GOVERNOR

Oregon State Highway Division

HIGHWAY BUILDING, SALEM, OREGON 97310

April 14, 1977

Oregon State Treasurer
103 Capitol Bldg.
Salem, OR 97310

Attention: Merle Crowe,
Cashier

Re: Peter Kiewit Sons' Co.

We have received the following safekeeping receipts:

Safekeeping Number	Amount	Contract No.
2372	$ 1,000.00	8250
2373	25,000.00	8119
2374	84,000.00	8413

There is no change in the total amount of securities posted in lieu of retainage.

Vernon E. Skoog
Controller

by _____
James J. Kinns
Contract Payments Executive

JJK:mm

cc: Peter Kiewit Sons' Co.

bc: C.W. Head
R. Church
C.W. Barrett (Att.)

8250

ROBERT W. STRAUB
GOVERNOR

Oregon State Highway Division

HIGHWAY BUILDING, SALEM, OREGON 97310

April 6, 1977

Peter Kiewit Sons' Co.
1000 Kiewit Plaza
Omaha, NE 68131

Attention: Donald E. Baker
Treasurer

Re: Contracts 8119, 8250 and 8413.

In accordance with your letter of March 30, 1977, securities released on contract 8119 ($75,000) and contract 8250 ($9,000) have been transferred to contract 8413.

Security Summary:

Contract	Prior Total	This Transaction	New Total
8046	$ 75,000	-0-	$ 75,000
8058	50,000	-0-	50,000
8119	100,000	(75,000)	25,000
8234	10,000	-0-	10,000
8250	10,000	(9,000)	1,000
8413	895,000	84,000	979,000
	$1,140,000	-0-	$1,140,000

Vernon E. Skoog
Controller

by _____
James J. Kinns
Contract Payments Executive

JJK:mm

cc: Oregon State Treasurer

bc: C.W. Head
R. Church
C.W. Barrett (Att.)

8250

OREGON STATE HIGHWAY DIVISION

March 25, 1977

HIGHWAY BUILDING • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

Peter Kiewit Sons' Co.
1000 Kiewit Plaza
Omaha, NE 68131

Attention: Donald E. Baker,
Treasurer

Re: Contracts 8119 and 8250

Retainage requirements on contract 8119 have been reduced to $25,000. You presently have $100,000 deposited in lieu of retainage on this project. $75,000 may be released or transferred to other contracts.

Retainage requirements on contract 8250 have been reduced to $1,000. You presently have $10,000 deposited in lieu of retainage on this project. $9,000 may be released or transferred to other projects.

Please notify this office as to the disposition of the excess deposits.

Vernon E. Skoog
Controller

by _____
James J. Kinns
Contract Payments Executive

JJK:mm

cc: Oregon State Treasurer

bc: C.W. Head
R. Church
C.W. Barrett

A DIVISION OF THE DEPARTMENT OF TRANSPORTATION

8-950

OREGON STATE HIGHWAY DIVISION

March 1, 1977

HIGHWAY BUILDING • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

Oregon State Treasurer
103 Capitol Bldg.
Salem, OR 97310

Attention: Merle Crowe
Cashier

Re: Peter Kiewit Sons' Co.

We received Safekeeping receipts 2316 for $10,000, 2317 for $10,000 and 2318 for $120,000. There is no change in the amounts applied to the various contracts.

Security Summary:

Contract	Current Amount
8046	$ 75,000
8058	50,000
8119	100,000
8234	10,000
8250	10,000
8413	895,000
	$ 1,140,000

Vernon E. Skoog
Controller

by _____
James J. Kinns
Contract Payments Executive

JJK:mm

cc: Peter Kiewit Sons' Co.

bc: C.W. Head
R. Church
C.W. Barrett (Att.)

8250

1

OREGON STATE HIGHWAY DIVISION

February 24, 1977

HIGHWAY BUILDING • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

Peter Kiewit Sons' Co.
1000 Kiewit Plaza
Omaha, NE 68131

Attention: Donald E. Baker
Treasurer

Re: Contracts 8046 and 8119

In accordance with your letter of February 18, 1977 the excess deposits on contracts 8046 and 8119 are being transferred to contract 8413.

Securities Summary:

Contract	Prior Total	This Transaction	New Total
8046	$ 270,000	(195,000)	$ 75,000
8058	50,000	-0-	50,000
8119	250,000	(150,000)	100,000
8234	10,000	-0-	10,000
8250	10,000	-0-	10,000
8413	550,000	345,000	895,000
	$1,140,000		$1,140,000

Vernon E. Skoog
Controller

By _____
James J. Kinns
Contract Payments Executive

JJK:mm

cc: Oregon State Treasurer, Merle Crowe, Cashier

bc: C.W. Head
R. Church
C.W. Barrett(Att.)

A DIVISION OF THE DEPARTMENT OF TRANSPORTATION

8250

1 1

OREGON STATE HIGHWAY DIVISION

February 17, 1977

HIGHWAY BUILDING • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

Peter Kiewit Sons' Co.
1000 Kiewit Plaza
Omaha, NE. 68131

Attention: Donald E. Baker
Treasurer

Re: Contracts 8250 and 8413

In accordance with your letter of February 14, 1977, the excess deposit of $130,000 on contract 8250 is being transferred to Contract 8413.

Security Summary:

Contract	Prior Total	This Transaction	New Total
8250	$ 140,000	(130,000)	$ 10,000
8413	420,000	130,000	550,000

Vernon E. Skoog
Controller

By _____
James J. Kinns
Contract Payments Executive

JJK:mm

cc: Oregon State Treasurer--Merle Crowe

bc: C.W. Head
R. Church
C.W. Barrett(Att.)

NOTED
C. W. HEAD

A DIVISION OF THE DEPARTMENT OF TRANSPORTATION

8250

ROBERT W. STRAUB
GOVERNOR

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

February 9, 1977

Peter Kiewit Sons' Co.
1000 Kiewit Plaza
Omaha, NE 68131

Attention: Donald E. Baker
Treasurer

Re: Contract 8250

Retainage requirements on this contract have been reduced to $10,000. You presently have $140,000 deposited in lieu of retainage on this project. $130,000 may be released on transferred to other contracts.

Please notify this office as to the disposition of the excess deposit.

Vernon E. Skoog
Controller

By _____
James J. Kinns
Contract Payments Executive

JJK:mm

cc: Oregon State Treasurer--Merle Crowe

bc: C.W. Head
R. Church
C.W. Barrett

C. W. HEAD

8250

13

FORM E-1 (REV 10-62)

OREGON STATE HIGHWAY DIVISION

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE SECTION

SECTION: CHEHALEM CR. (NEWBERG)		WEEK ENDING: DECEMBER 11, 1976
		SECTION PREFIX: 36-1068
HIGHWAY: PACIFIC WEST		COUNTY: YAMHILL
NAME OF JOB: CHEHALEM CR. (NEWBERG)	KIND OF WORK: GRADING, PAVING, STRUCTURE, SIGNING	
CONTRACTOR: PETER KIEWIT SONS'S CO.	CONTRACT NUMBER: 8250	FEDERAL AID PROJECT NUMBER: U-RF-52(10)
DATE OF CONTRACT: JUNE 24, 1975	DATE WORK STARTED: JULY 23, 1975	ESTIMATED COMPLETION DATE: OCTOBER 25, 1976
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 2 SUPERVISION:	SPECIFIED WORK DAYS	WORK DAYS USED
	SPECIFIED CALENDAR DAYS 500	CALENDAR DAYS USED 466
PROJECT AUTHORIZATION: $2,595,474.00	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED: 93
EXCLUSIVE OF ENGINEERING: $2,410,906.96	ENGINEERING AUTHORIZATION $184,567.04	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $2,410,906.96	ENGINEERING COST TO DATE $210,748.70	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 100
ESTIMATED PERCENT: OVERRUN / UNDERRUN ____%	PERCENT OF AUTHORIZATION 114 %	DATE PROJECT WAS COMPLETED: OCTOBER 25, 1976

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L PROD.		
100	100	100	100	100	17,200 tons		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT	0.5	0.5			0.5
MILES PARTIALLY COMPLETED	0.5	0.5			0.5
MILES COMPLETED	0.5	0.5			0.5
TOTAL ESTIMATED QUANTITIES (CONTRACT)	17,600 cy	200 cy			17,200 tons
TOTAL QUANTITIES CORRECTED TO DATE	14,348 cy	200 cy			15,764 tons
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	14,348 cy	200 cy			15,764 tons
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME	0	0			0
NUMBER OF SHIFTS PER DAY	0	0			0
HOURS PER SHIFT	0	0			0

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY 5	rain			
MONDAY 6	rain			
TUESDAY 7	cloudy			
WEDNESDAY 8	cloudy			
THURSDAY 9	cloudy			
FRIDAY 10	cloudy			
SATURDAY 11	cloudy			

Readings
Krasby
Bond
Beckmond
Harwood
Johnson
Walker

RECEIVED
DEC 13 1976
CONSTRUCTION
SECTION

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	
TUESDAY	Installed barrier fence on the four corners of the structure as per price agreement # 6. Work has been completed on the project.
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

Contract complete. Extra work to be done includes landscaping on another contract.
This is the last report.

SIGNED Warren E. Mueller LOCATION ~~SALEM~~

WARREN E. MUELLER RESIDENT ENGINEER

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP-F216

#8250 2W

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE 6 December 1976

Prefix: 36-1068

40232
8B-35-23

TO John Scott

FROM Warren E. Mueller
Resident Engineer Warren E Mueller

SUBJECT Chehalem Cr. (Newberg)
Contract # 8250

Change in R/W line and legal description is necessary for the attached sketch map.

Please be advised that due to physical conditions existing on the ground, it was necessary to move the 1st St. connection approach road 15 feet westerly from its proposed location. This resulted in a change in the L^s line tie for the approach road from L^s14+55, to L^s14+70.

Since this access road is built on a ten foot high fill, it will be necessary to move the westerly R/W line from its present location; at right angles to station L^s 15+00 to a new location , at right angles to station L^s 15+15, in order to avoid a possible encroachment, in the event that the unused portions of the parcel described in R/W file 40232 are ever disposed of.

Please make the necessary changes to your R/W maps and files

Access control line on map moved from sta. 15+00 to sta. 15+15; No change in description required. - R. Rounds 12-9-76

JH/encl.
inch-50 sketch map
deed,file 40232

Versteeg
Olson
Chesnimi
Rounds
Swenson
Savage

RECEIVED
DEC 06 1976
ROAD DESIGN SECTION

Requires Reply
Requires Approval
Receiver Keep
Do not File
Return To
Bring Up
Other

File No. 40232

WARRANTY DEED

(Individual)

8B-35-23

RW 38419

Know All Men by These Presents, That we, Josiah C. Nelson and Dorothy A. Nelson, husband and wife, legal owners; Marvin L. Munger and Peggy Ann Munger, husband and wife, contract purchasers, Grantors, for the consideration of the sum of Thirteen Thousand Two Hundred Thirty and No/100 ($13,230.00) -------- DOLLARS to us paid, have bargained and sold and by these presents do bargain, sell and convey unto the STATE OF OREGON, by and through its STATE HIGHWAY COMMISSION, the following described premises, to wit:

PARCEL 1

A parcel of land lying in HURLEY'S FRUIT LAND SUBDIVISION of a part of the John H. Hess D.L.C. No. 39, Notification 1419 in Township 3 South, Range 2 West, W. M., Yamhill County, Oregon, and being a portion of that property described in that contract to Marvin L. and Peggy Ann Munger, recorded on Film Volume 48, Page 618 of Deed and Mortgage Records of Yamhill County; the said parcel being that portion of said property included in a strip of land 100 feet in width, 50 feet on each side of the center line of the Southbound lane of the Pacific Highway West as said highway has been relocated, which center line is described as follows:

Beginning at Engineer's center line Station "SB" 0+00, said station being 14.00 feet North and 0.10 feet East of the Northwest corner of the Joseph B. Rogers D.L.C., Township 3 South, Range 2 West, W. M.; thence North 89° 35' West, 639.88 feet; thence on a spiral curve left (the long chord of which bears South 87° 25' West) 300 feet; thence on a 954.93 foot radius curve left (the long chord of which bears South 78° 11' 04" West) 107.74 feet; thence on a 1313.24 foot radius curve left (the long chord of which bears South 64° 11' 44.5" West) 493.09 feet; thence on a 1909.86 foot radius curve left (the long chord of which bears South 49° 07' 10.5" West) 287.97 feet; thence on a spiral curve left (the long chord of which bears South 39° 48' West) 500 feet; thence South 37° 18' West, 300 feet to Engineer's center line Station "SB" 26+28.68 Back equals "SB" 26+41.20 Ahead; thence continuing South 37° 17' West, 98.29 feet; thence on a spiral curve right (the long chord of which bears South 37° 58' West) 400 feet; thence on a 5729.58 foot radius curve right (the long chord of which bears South 40° 47' 30" West) 298.33 feet; thence on a spiral curve right (the long chord of which bears South 43° 37' West) 400 feet; thence South 44° 17' West, 324.22 feet to Engineer's center line Station "SB" 41+62.04 Back equals Station "SB" 34+51.91 Ahead.

ALSO that portion of said property lying Northerly of said strip of land and Easterly of a line at right angles to said center line at Engineer's Station "SB" 15+00.

The parcel of land to which this description applies contains 0.25 acre, more or less, outside of the existing right of way.

PARCEL 2

A parcel of land lying in HURLEY'S FRUIT LAND SUBDIVISION of a part of the John H. Hess D.L.C. No. 39, Notification 1419 in Township 3 South, Range 2 West, W. M., Yamhill County, Oregon, and being that property described in that contract to Marvin L. and Peggy Ann Munger, recorded on Film Volume 48, Page 618 of Deed and Mortgage Records of Yamhill County.

EXCEPT therefrom Parcel 1, leaving a net area of 0.21 acre.

basek

in R/W

TO HAVE AND TO HOLD the said premises with their appurtenances, in fee simple, unto the State of Oregon, by and through its State Highway Commission, its successors and assigns forever.

And we the said Grantors do hereby covenant to and with the State of Oregon, by and through its State Highway Commission, its successors and assigns, that we are the owners in fee simple of said premises; that they are free from all encumbrances

and that we will warrant and defend the same from all lawful claims whatsoever.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 6th day of February 19 67. 100 # 14.85

unto the STATE

premises, to wit:

PARCEL 1

A parcel of land lying in HURLEY'S FRUIT LAND SUBDIVISION of a part of the John H. Hess D.L.C. No. 39, Notification 1419 in Township 3 South, Range 2 West, W. M., Yamhill County, Oregon, and being a portion of that property described in that contract to Marvin L. and Peggy Ann Munger, recorded on Film Volume 48, Page 618 of Deed and Mortgage Records of Yamhill County; the said parcel being that portion of said property included in a strip of land 100 feet in width, 50 feet on each side of the center line of the Southbound lane of the Pacific Highway West as said highway has been relocated, which center line is described as follows:

Beginning at Engineer's center line Station "SB" 0+00, said station being 14.00 feet North and 0.10 feet East of the Northwest corner of the Joseph B. Rogers D.L.C., Township 3 South, Range 2 West, W. M.; thence North 89° 35' West, 639.88 feet; thence on a spiral curve left (the long chord of which bears South 87° 25' West) 300 feet; thence on a 954.93 foot radius curve left (the long chord of which bears South 78° 11' 04" West) 107.74 feet; thence on a 1313.24 foot radius curve left (the long chord of which bears South 64° 11' 44.5" West) 493.09 feet; thence on a 1909.86 foot radius curve left (the long chord of which bears South 49° 07' 10.5" West) 287.97 feet; thence on a spiral curve left (the long chord of which bears South 39° 48' West) 500 feet; thence South 37° 18' West, 300 feet to Engineer's center line Station "SB" 26+28.68 Back equals "SB" 26+41.20 Ahead; thence continuing South 37° 17' West, 98.29 feet; thence on a spiral curve right (the long chord of which bears South 37° 58' West) 400 feet; thence on a 5729.58 foot radius curve right (the long chord of which bears South 40° 47' 30" West) 298.33 feet; thence on a spiral curve right (the long chord of which bears South 43° 37' West) 400 feet; thence South 44° 17' West, 324.22 feet to Engineer's center line Station "SB" 41+62.04 Back equals Station "SB" 34+51.91 Ahead.

ALSO that portion of said property lying Northerly of said strip of land and Easterly of a line at right angles to said center line at Engineer's Station "SB" 15+00.

The parcel of land to which this description applies contains 0.25 acre, more or less, outside of the existing right of way.

PARCEL 2

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EXCEPT therefrom Parcel 1, leaving a net area of 0.21 acre.

ba/pl

TO HAVE AND TO HOLD the said premises with their appurtenances, in fee simple, unto the State of Oregon, by and through its State Highway Commission, its successors and assigns forever.

And ....we..... the said Grantor...s... do hereby covenant to and with the State of Oregon, by and through its State Highway Commission, its successors and assigns, that .....we are..... the owner...s... in fee simple of said premises; that they are free from all encumbrances

and that .....we..... will warrant and defend the same from all lawful claims whatsoever.

IN WITNESS WHEREOF, ...we..... have hereunto set .....our..... hand...s and seal...s

this .....6th..... day of .....February....., 19..67.. IRS $ 14.85

Josiah C. Nelson /s/ ..... [SEAL]

Dorothy A. Nelson /s/ ..... [SEAL]

Form previously approved as to form and legality

Marvin L. Munger /s/ ..... [SEAL]

Peggy Ann Munger /s/ ..... [SEAL]

FILE COPY

Change in R/W

Change this Portion of description to: Also that Portion of said Property Lying Northerly ~~Northerly~~ of said Strip of Land, and Easterly of a Line at right angles to said Centerline at Engineers Station "SB 15+15.

...portion and shoulders of the highway which is made for the ...
...r under the terms of this option or the construction plans, shall be completed
...normal engineering construction practices and thereafter shall be maintained or reconstructed
The undersigned property owner, in accordance with Section 374.305, et seq., ORS and other applicable statutes and regulations.
hereby grant the State, its employees or contractors, permission to enter upon their remaining property for the purpose of performing any of said construction work.

It is expressly understood that the State shall not be obligated further than as herein stated.

(Grantors' other obligations) As a part of the consideration above stated, the undersigned agree to do the following additional things at their own cost and expense:

(1) In the event that this option is accepted, the undersigned agree to remove promptly from the limits of the real property herein covered the following reserved property or items:

State shall purchase and affix internal revenue stamps to the deed and deduct the cost thereof from the above consideration.

Any reserved property or items not removed on or before the date of possession above specified shall become the property of the State.

(2) Grantor is privileged to construct at a future date, under terms of a Standard Road Approach Permit, certain road approaches set forth as grantor's obligation in Section 9D.

It is understood that the $650 allowed for payment of the two Obie signs will be paid directly to Obie Sign Company and deducted from the above consideration.

In addition to the above described property, the grantor hereby agrees to convey all of his remaining property lying northwesterly side of the above described centerline.

Taxes shall be pro-rated as of the date of the deed.

9. (Access)

A. It is understood and agreed that any instrument or conveyance which may be required to complete the purchase shall contain provisions substantially as follows, to-wit:

B. As a part of the consideration hereinabove stated, there is also bargained, sold, conveyed and relinquished to the Grantee all existing, future, or potential common law or statutory abutter's easements of access between the parcels herein described and all of the grantors' remaining real property.

C. (Crossing for Farm Purposes) Reserving, for farm purposes only and for the service of the said remaining property of the Grantors, a right to establish, maintain and use a crossing of a width of ..... feet at a point opposite Highway Engineer's Center Line Station ....., so long as any portion of the said remaining property on both sides of the highway and served by such crossing is held by a single ownership. The construction of a frontage road or roads shall not defeat this right of crossing.

D. (Right of Access) Reserving, for service of the said remaining property, right of access from Grantors' remaining property to the highway right of way, at each of the following places and for the following widths and purposes only:

Hwy. Engr's. Sta.	Side of Hwy.	Widths R/W of Approach	Widths Top Surface	Purpose	To Be Constd. By

E. (Suspension of Access) If, after written notice to desist, the Grantors, or any person holding under them, shall use any of said rights of access or farm crossing for any purpose not stated for that particular place, or shall use said access or farm crossing in a width greater than above stated, or shall permit or suffer any person to do so, such right of access or farm crossing shall automatically be suspended. The Grantee shall thereupon have the right to close such place of access or farm crossing for all purposes. The suspension shall terminate when satisfactory assurance has been furnished the Grantee that the place of access or farm crossing will be used only for the purpose hereinabove stated. The Grantee's rights to close such place of access or farm crossing shall be continuing as to each succeeding use for a purpose not herein stated.

F. (Present Frontage Road) Grantee shall either construct a public frontage road or provide some other access road on the ..... side..... of the highway, and the Grantors, their heirs (successors) and assigns, shall be entitled to reasonable access to the said road for any purpose, upon application filed with the State pursuant to applicable statutes and regulations. Said road shall be connected to the main highway or to other public ways only at such places as the Grantee may select.

G. (Future Frontage Road) Grantee has the right to construct or otherwise provide at any future time a public frontage road or roads; whereupon all rights of access hereinabove reserved to and from the highway that are on or adjacent to any such frontage road or roads shall cease, but the Grantors, their heirs (successors) and assigns, shall have access to the frontage road or roads for any purpose upon obtaining a permit from the State under the applicable statutes and regulations governing the same. Said road or roads shall be connected to the main highway or to other public ways only at such places as the Grantee may select.

J. It is expressly intended that these covenants, burdens, restrictions and reservations shall run with the land and shall forever bind the Grantors, their heirs (successors) and assigns.

The undersigned expressly acknowledge that all items of damages, all sums of money to be paid, and all things to be done by the State are included in this option, and expressly agree that the consideration recited herein constitutes complete just compensation for the real property described above, including any and all damages which may result from the use of said real property and the construction, reconstruction or improvement of the highway, including any grade change damages. All claims for damages, injury, or loss on account of failure to close this option are hereby expressly waived

Dated this 6th day of ..... 19[illegible]

[SEAL]

...tate shall ... t...roof from the above ... Any reserved property or items not removed on or ... property of the State.

(2) Grantor is privileged to construct at a future date, under terms of a Standard ... tain road approaches set forth as grantor's obligation in Section 9D.

It is understood that the $650 allowed for payment of the two Obie Signs will be paid directly to Obie Sign Company and deducted from the above consideration.

In addition to the above described property, the grantor hereby agrees to convey all of his remaining property lying northwesterly side of the above described centerline.

Taxes shall be pro-rated as of the date of the deed.

It is understood and agreed that any instrument or conveyance which may be required to complete the purchase shall contain provisions substantially as follows, to-wit:

B. As a part of the consideration hereinabove stated, there is also bargained, sold, conveyed and relinquished to the Grantee all existing, future, or potential common law or statutory abutter's easements of access between the parcels herein described and all of the grantors' remaining real property.

C. (Crossing for Farm Purposes) Reserving, for farm purposes only and for the service of the said remaining property of the Grantors, a right to establish, maintain and use a crossing of a width of ..... feet at a point opposite Highway Engineer's Center Line Station ....., so long as any portion of the said remaining property on both sides of the highway and served by such crossing is held by a single ownership. The construction of a frontage road or roads shall not defeat this right of crossing.

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Hwy. Engr's. Sta.	Side of Hwy.	Widths R/W of Approach	Widths Top Surface	Purpose	To Be Constd. By

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It is expressly intended that these covenants, burdens, restrictions and reservations shall run with the land and shall forever bind the Grantors, their heirs (successors) and assigns.

J. The undersigned expressly acknowledge that all items of damages, all sums of money to be paid, and all things to be done by the State are included in this option, and expressly agree that the consideration recited herein constitutes complete just compensation for the real property described above, including any and all damages which may result from the use of said real property and the construction, reconstruction or improvement of the highway, including any grade change damages. All claims for damages, direct, or ... on account of failure to close this option are hereby expressly waived.

Dated this ... day of ..., 19...

[SEAL]

[SEAL]

[SEAL]

Witness:

[SEAL]

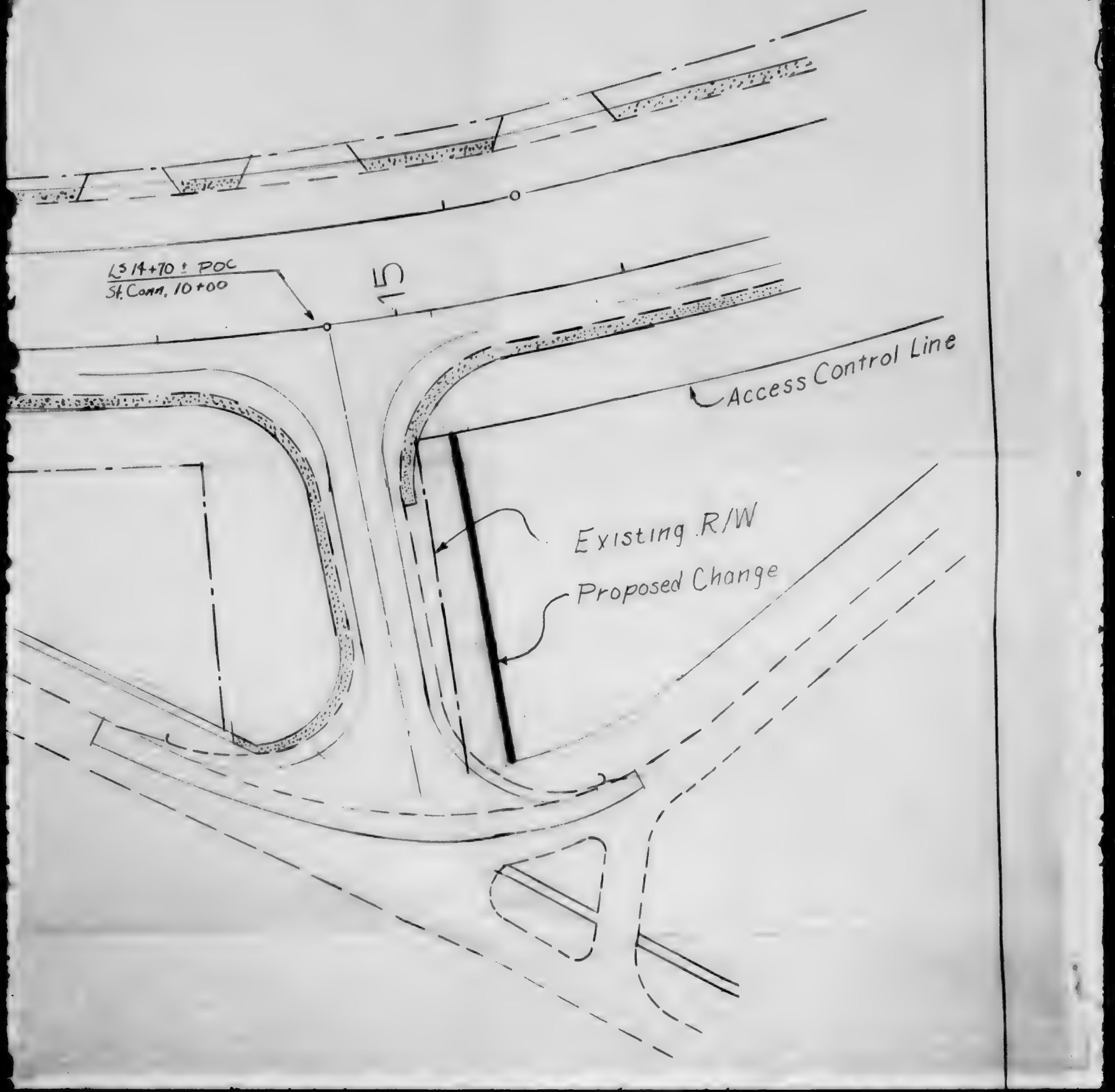
State Form ... 3450

FILE COPY

... form and legality

CHEHALEM CR. (NEWBERG) SECTION
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Contract B250	Proj # U-RF-52 (10)	Prefix 36-1068



"LN" LINE

"LS" LINE

LS 14+70 ± POC
St. Conn. 10+00

SR/WJ

W. 1ST. STREET

8250

STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 11-4475 46 47		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Yamhill
MODIFICATION NUMBER 3	10-28-76	Project Number U-RF-52(10)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17 ,19 75 , is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	1,265,958 U $ 1,289,870 RF	1,265,958 U $ 1,289,870 RF
Federal funds	989,852 U $ 1,008,548 RF	1,086,191 U $ 1,106,707 RF
Other revisions		

This modification is made for the following reasons: To increase Federal-aid pro rata to 85.8% (Clause 'B') which results in a decrease in previous 100% funding under PL 94-30 to a net of $179,767 Urban funds and $183,163 Rural Primary funds.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 25th day of October ,1976

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E J Hunter

Deputy State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By G. L. Green *(Division Administrator)*

GPO 895-313

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

Oregon State Highway Division
Salem, Oregon, October 15, 1976

Federal-aid Project
No. U-RF-52(10)

CHEHALEM CREEK (NEWBERG) SECTION
PACIFIC HWY. WEST IN YAMHILL COUNTY

Revised Project Agreement Estimate

Type Code 6203
Roadway (Urban) (Sta. L^S 9+40 to Sta. L^S 22+20)

Total same as previous estimate of May 4, 1976 $ 384,070.00

Type Code 6203
Roadway (Rural) Sta. L 30+40 thru Equa. 41+62.04 = 34+51.91 to Sta. 35+00)

Total same as previous estimate of May 4, 1976 $ 387,939.00

Type Code X081
Chehalem Cr. Br. #2054A (Sta. L^n 22+06 to Sta. L^n 30+26.80)

Total same as previous estimate of May 4, 1976 $1,783,819.00

Length of Roadway (Urban)	0.242 Mile
Length of Roadway (Rural)	0.222 Mile
Length of Structure (Urban)	0.077 Mile
Length of Structure (Rural)	0.078 Mile
Total	0.619 Mile
Cost of Roadway Per Mile (Urban)	$1,587,066.12
Cost of Roadway Per Mile (Rural)	$1,747,472.97

Retain in Program

Urban			
Bikeway Signs	All Required	(50%)	$ 200.00
Portland General Electric	All Required	(50%)	2,500.00
City of Newberg (Sewer and Water)	All Required	(100%)	5,000.00
Piling Tip Plates	All Required	(50%)	250.00
Planting of Embankment Slopes	All Required	(50%)	2,500.00
	Subtotal		$ 10,450.00
	Engineering		1,045.00
	Total		$ 11,495.00

Rural		
Bikeway Signs	All Required (50%)	$ 250.00
Portland General Electric	All Required (50%)	2,500.00
Piling Tip Plates	All Required (50%)	250.00
Planting of Embankment Slopes	All Required (50%)	2,500.00
	Subtotal	$ 5,450.00
	Engineering	750.00
	Total	$ 6,200.00

SUMMARY OF FUNDS

Description	Total Cost	*Federal Funds	State Funds
Roadway (Urban G-5)	$ 384,070.00	$ 329,532.00	$ 54,538.00
Structure (Urban G-5)	881,888.00	756,659.00	125,229.00
Subtotals	$1,265,958.00	$1,086,191.00	$179,767.00
Retain in Program (G-5)	11,495.00	9,862.00	1,633.00
Total Urban	$1,277,453.00	$1,096,053.00	$181,400.00
Roadway (Rural G-6)	$ 387,939.00	$ 332,851.00	$ 55,088.00
Structure (Rural G-6)	901,931.00	773,856.00	128,075.00
Subtotals	$1,289,870.00	$1,106,707.00	$183,163.00
Retain in Program (G-6)	6,200.00	5,319.00	881.00
Total Rural	$1,296,070.00	$1,112,026.00	$184,044.00
Total Cost	$2,573,523.00	$2,208,079.00	$365,444.00

Group 5 - 49% Group 6 - 51%

Contract No. 8250

Prefix: 36-1068

*Increase in Federal-aid pro rata to 85.8%.

8 2-50

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER: 5-106 & 5-107	STATE COPY	State: Oregon
PROJECT REPORT NUMBER:	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County: Yamhill
MODIFICATION NUMBER: 2	5 12 76	Project Number: U-RF-52(10)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	1,265,958-U ~~$1,289,870-RF~~	1,265,958-U ~~$1,289,870-RF~~
Federal funds	989,852-U ~~$1,008,548-RF~~	1,265,958-U ~~$1,289,870-RF~~
Other revisions		

This modification is made for the following reasons:
The Project Agreement executed ~~July 17~~, 1975 is modified to increase Federal-aid participation to ~~100~~ percent in accordance with PL 94-30.
Such additional Federal Funds requested total $~~276,106-U, 281,322-RF~~
All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 13th day of May, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By [signature]

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By [signature]
(Division Administrator)

For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 895-313

8250 STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 5-72		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Yamh111
MODIFICATION NUMBER 1	5-13 76	Project Number U-RF-52(10)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 1975, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	1,251,070-U $ 1,289,870-RF	1,265,958-U $ 1,289,870-RF
Federal funds	978,211-U $ 1,008,548-RF	989,852-U $ 1,008,548-RF
Other revisions		

This modification is made for the following reasons:

To include authorized Railroad work.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 13th day of May, 1976.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By A. J. Schneider

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By W. W. Cinnett
(Division Administrator)
for: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 895-312

Oregon State Highway Division
Salem, Oregon May 4, 1976

Federal Aid Project
No. U-RF-52(10)

Chehalem Creek (Newberg) Section

Pacific Hwy. West In Yamhill County

Revised Project Agreement Estimate.
Type Code 6203
Roadway (Urban) Sta. L^S 9+40 to Sta. L^S 22+20)

Subtotal on previous estimate of July 7, 1975		$335,620.00
Additional Approved Item Work by Southern Pacific Transportation Co.	All Required	13,535.00
	Subtotal	$349,155.00
	Engineering	34,915.00
	TOTAL	$384,070.00

Type Code 6203
Roadway (Rural) Sta. L 30+40 thru Equa. 41+62.04 = 34+51.91 to Sta. 35+00)

Total same as previous estimate of July 7, 1975	$387,939.00

Type Code X081
Chehalem Creek Br. #2054A (Sta. L^N 22+06 to Sta. L^N 30+26.80)

Total same as previous estimate of July 7, 1975	$1,783,819.00

Length of Roadway (Urban)	0.242 mile
Length of Roadway (Rural)	0.222 mile
Length of Structure (Urban)	0.077 mile
Length of Structure (Rural)	0.078 mile
TOTAL	0.619 mile

Cost of Roadway per mile (Urban)	$1,587,066.12
Cost of Roadway per mile (Rural)	$1,747,472.97

RETAIN IN PROGRAM

Urban

Bikeway Signs	All Required	(50%)	$ 200.00
Portland General Electric	" "	(50%)	2,500.00
City of Newberg (Sewer & Water)	" "	(100%)	5,000.00
Piling Tip Plates	" "	(50%)	250.00
Planting of Embankment Slopes	" "	(50%)	2,500.00
		Subtotal	$ 10,450.00
		Engineering	1,045.00
		TOTAL	$ 11,495.00

Rural			
Bikeway Signs	All Required	(50%)	$ 200.00
Portland General Electric	" "	(50%)	2,500.00
Piling Tip Plates	" "	(50%)	250.00
Planting of Embankment Slopes	" "	(50%)	2,500.00
		Subtotal	$ 5,450.00
		Engineering	750.00
		TOTAL	$ 6,200.00

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway (Urban G-1)	$ 384,070.00	$300,304.00	$ 83,766.00
Structure (Urban G-1)	881,888.00	689,548.00	192,340.00
Subtotal	$1,265,958.00	$989,852.00	$276,106.00
Retain in Program (G-1)	11,495.00	8,987.00	2,508.00
TOTAL - URBAN (G-1)	$1,277,453.00	$998,839.00	$278,614.00
Roadway (Rural G-2)	$ 387,939.00	$ 303,329.00	$ 84,610.00
Structure (Rural G-2)	901,931.00	705,219.00	196,712.00
Subtotal	$1,289,870.00	$1,008,548.00	$281,322.00
Retain in Program (G-2)	6,200.00	4,847.00	1,353.00
TOTAL - RURAL (G-2)	$1,296,070.00	$1,013,395.00	$282,675.00
TOTAL COST	$2,573,523.00	$2,012,234.00	$561,289.00

Group 1 - 49% Group 2 - 51%
Contract No. - 8250
Prefix - 36-1068

8350 STATE COPY R

TO BE COMPLETED BY FHWA	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O.M.B. No. 04-R2069
MONTHLY TRANSACTION NO. 7-43 & 7-44	**FEDERAL-AID PROJECT AGREEMENT** 7-17-75	STATE OREGON COUNTY Yamhill PROJECT NO. U-RF-52(10)

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

SR 99W, SPRR Xing (Newberg), SW 0.62 mi.

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	5-28-75	0.0
OTHER *(Specify)*		

FUNDS Pro-Rata 78.19%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 2,540,940	$ 1,986,759

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E S Hunter
Asst. State Highway Engineer
(Title)

By _____
(Title)

By _____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By G. L. Green *(Division Engineer)*

Date executed by Division Engineer _____

Form PR-2 (Rev. 9-74) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 301(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 7, 1975

Federal Aid Project
No. U-RF-52(10)

CHEHALEM CR. (NEWBERG) SECTION
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Project Agreement Estimate.

Type Code 6203
Roadway (Urban) Sta. L^S 9+40 to Sta. L^S 22+20)

Mobilization	All Required (60%)			$ 95,100.00
Temporary Protection and Direction of Traffic	All Required (30%)			600.00
Temporary Signs	139 sq.ft.	7.00		973.00
Temporary Barricades	1 only	100.00		100.00
Flagmen	250 hour	12.00		3,000.00
Clearing and Grubbing	All Required (50%)			7,000.00
Removal of Structures and Obstructions	All Required (50%)			2,000.00
Borrow Excavation	5,980 cu.yd.	2.90		17,342.00
General Excavation	3,550 cu.yd.	3.50		12,425.00
Trench Excavation	365 cu.yd.	6.00		2,190.00
Finishing Roadbed and Slopes	All Required (60%)			4,200.00
Obliteration of Roadway	All Required (25%)			250.00
Watering	150 M-gal.	5.00		750.00
Class "B" and "C" Asphalt Concrete Mixture	8,700 ton	10.00		87,000.00
Asphalt Cement in Mixture	560 ton	100.00		56,000.00
Asphalt in Tack Coat	4 ton	150.00		600.00
8-inch Culvert Pipe	50 lin.ft.	5.00		250.00
12-inch Culvert Pipe	50 lin.ft.	10.00		500.00
18-inch Culvert Pipe	50 lin.ft.	12.00		600.00
8-inch Sewer Pipe	96 lin.ft.	7.00		672.00
12-inch Sewer Pipe	1,038 lin.ft.	10.00		10,380.00
Extra for Pipe Under Pavement	30 lin.ft.	10.00		300.00
Concrete Manholes	2 only	900.00		1,800.00
Concrete Inlets, Type CG-1	5 only	370.00		1,850.00
Concrete Walks	1,380 sq.yd.	7.50		10,350.00
Concrete Driveways	205 sq.yd.	11.00		2,255.00
Concrete Curbs	100 cu.yd.	70.00		7,000.00
Extra for Asphalt Approaches	7 only	150.00		1,050.00
Concrete Barrier	72 lin.ft.	25.00		1,800.00
Adjusting Manholes	1 only	100.00		100.00
Roadside Seeding and Mulching	0.5 acre	1,000.00		500.00
Signing				
Removal of Existing Sign Installations	All Required (50%)			125.00
Modify Existing Sign Legend	All Required			400.00
Painted Wood Sign Posts	All Required (72%)			1,080.00

Sign Support Footings	All Required (35%)		$ 315.00
Pipe Sign Posts	All Required		690.00
Type "A" Signs in Place	18 sq.ft.	13.00	234.00
Type "C" and "D" Signs in Place	83 sq.ft.	6.00	498.00
Type "EE" Signs in Place	38 sq.ft.	7.00	266.00
Type "U" Signs in Place	75 sq.ft.	9.00	675.00
			$ 333,220.00
Anticipated Items			
Railroad Protective Costs	All Required (50%)		$ 950.00
Permanent Pavement Striping	All Required (50%)		100.00
Stage Construction Striping	All Required (50%)		100.00
Temporary Erosion Control	All Required (50%)		1,250.00
			$ 2,400.00
	Subtotal		$ 335,620.00
	Engineering		33,562.00
	Total		$ 369,182.00

Type Code 6203
Roadway (Rural) (Sta. L 30+40 thru Eq. 41+62.04 Bk = 34+51.91 Ah to Sta. 35+00)

Mobilization	All Required (40%)		$ 63,400.00
Temporary Protection and Direction of Traffic	All Required (70%)		1,400.00
Temporary Signs	611 sq.ft.	7.00	4,277.00
Temporary Barricades	6 only	100.00	600.00
Temporary Continuous Rail Traffic Barriers, Reflectorized	200 lin.ft.	3.50	700.00
Flagmen	250 hour	12.00	3,000.00
Clearing and Grubbing	All Required (50%)		7,000.00
Removal of Structures and Obstructions	All Required (50%)		2,000.00
Borrow Excavation	1,220 cu.yd.	2.90	3,538.00
General Excavation	6,850 cu.yd.	3.50	23,975.00
Trench Excavation	1,585 cu.yd.	6.00	9,510.00
Finishing Roadbed and Slopes	All Required (40%)		2,800.00
Obliteration of Roadway	All Required (75%)		750.00
Watering	120 M-gal.	5.00	600.00
1" - 0 Aggregate Base	200 cu.yd.	11.00	2,200.00
Class "B" and "C" Asphalt Concrete Mixture	8,500 ton	10.00	85,000.00
Asphalt Cement in Mixture	550 ton	100.00	55,000.00
Asphalt in Tack Coat	4 ton	150.00	600.00
8-inch Culvert Pipe	50 lin.ft.	5.00	250.00
12-inch Culvert Pipe	26 lin.ft.	10.00	260.00
18-inch Culvert Pipe	50 lin.ft.	12.00	600.00
8-inch Sewer Pipe	68 lin.ft.	7.00	476.00
12-inch Sewer Pipe	396 lin.ft.	10.00	3,960.00

24-inch Sewer Pipe	164 lin.ft.	21.00	$ 3,444.00
30-inch Sewer Pipe	1,464 lin.ft.	24.00	35,136.00
Extra for Pipe Under Pavement	40 lin.ft.	10.00	400.00
Energy Dissipator	All Required		2,000.00
Concrete Manholes	6 only	900.00	5,400.00
Concrete Inlets, Type CG-1	8 only	370.00	2,960.00
Concrete Inlets, Type G-2MA	3 only	400.00	1,200.00
Special Concrete Inlet	1 only	600.00	600.00
Concrete Walks	1,120 sq.yd.	7.50	8,400.00
Concrete Driveway	40 sq.yd.	11.00	440.00
Concrete Curbs	70 cu.yd.	70.00	4,900.00
Extra for Asphalt Approaches	3 only	150.00	450.00
Concrete Barrier	72 lin.ft.	25.00	1,800.00
Roadside Seeding and Mulching	0.5 acre	1,000.00	500.00
Signing			
Removal of Existing Sign Installations	All Required (50%)		125.00
Move and Reinstall Existing Signs	All Required		250.00
Painted Wood Sign Posts	All Required (28%)		420.00
Sign Support Footings	All Required (65%)		585.00
Breakaway Sign Posts	All Required		950.00
Type "A" Signs in Place	32 sq.ft.	13.00	416.00
Type "C" and "D" Signs in Place	12 sq.ft.	6.00	72.00
Type "EE" Signs in Place	13 sq.ft.	7.00	91.00
			$ 342,435.00
Anticipated Items			
Railroad Protective Costs	All Required (50%)		$ 950.00
Permanent Pavement Striping (S.F.)	All Required (50%)		100.00
Stage Construction Striping (S.F.)	All Required (50%)		100.00
Temporary Erosion Control	All Required (50%)		1,250.00
			$ 2,400.00
	Subtotal		$ 344,835.00
	Engineering		43,104.00
	Total		$ 387,939.00

Type Code X081

Chehalem Creek Br. (Bridge No. 2054A) (Sta. Ln 22+06 to Sta. Ln 30+26.80)

Bridge Removal Work	All Required		$ 20,000.00
Shoring, Cribbing, Etc.	All Required		60,000.00
Structure Excavation	2,280 cu.yd.	6.00	13,680.00
Structure Excavation Below Elevations Shown	220 cu.yd.	8.00	1,760.00
Furnish Pile Driving Equipment	All Required		20,000.00
Furnish 12-inch Prestressed Concrete Piling	3,380 lin.ft.	7.00	23,660.00

Furnish HP 12x53 Steel Piling	21,340 lin.ft.	6.70	$ 142,978.00
Drive Prestressed Concrete Piles	3,380 lin.ft.	6.00	20,280.00
Drive Steel Piles	21,340 lin.ft.	5.00	106,700.00
Structural Concrete, Class 3300 (2,810 cu.yds.)	All Required		250,000.00
Structural Concrete, Class 4000 (750 cu.yds.)	All Required		200,000.00
Composite Expansion Joint, Type 400A	191 lin.ft.	85.00	16,235.00
115'x120' Bulb Tee Prestressed Beams	70 only	5,700.00	399,000.00
Reinforcement (985,000 lbs.)	All Required		260,000.00
Reinforced Concrete Bridge End Panels	445 sq.yd.	30.00	13,350.00
Bearing Devices, Type D	20 only	300.00	6,000.00
Pedestrian Handrail	1,682 lin.ft.	25.00	42,050.00
1-1/2 inch Electrical Conduit	1,780 lin.ft.	3.00	5,340.00
			$1,601,033.00
Anticipated Items			
On-the-Job Trainees (3 @ $800)	All Required		2,400.00
	Subtotal		$1,603,433.00

Urban Portion	$801,716.50
Engineering	80,171.50
Total	$881,888.00
Rural Portion	$801,716.50
Engineering	100,214.50
Total	$901,931.00

Grand Total for Structure $1,783,819.00

Length of Roadway	(Urban) - - - -	.242 mile
	(Rural) - - - -	.222 mile
Length of Structure	(Urban) - - - -	.077 mile
	(Rural) - - - -	.078 mile
Total Length of Project		.619 mile

Cost of Roadway per Mile (Urban) $1,525,545.45
(Rural) $1,747,472.97

Retained in Program Status

Urban		
Southern Pacific Railroad	All Required (50%)	$ 3,000.00
Bikeway Signs	All Required (50%)	200.00
Portland General Electric	All Required (50%)	2,500.00
City of Newberg (Sewer & Water)	All Required	5,000.00
Piling Tip Plates	All Required (50%)	250.00
Planting of Embankment Slopes	All Required (50%)	2,500.00
Subtotal		$ 13,450.00
Engineering		1,345.00
Total		$ 14,795.00
Rural		
Southern Pacific Railroad	All Required (50%)	$ 3,000.00
Bikeway Signs	All Required (50%)	200.00
Portland General Electric	All Required (50%)	2,500.00
Piling Tip Plates	All Required (50%)	250.00
Planting of Embankment Slopes	All Required (50%)	2,500.00
Subtotal		$ 8,450.00
Engineering		1,056.00
Total		$ 9,506.00

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway (Urban G-1)	$ 369,182.00	$ 288,663.00	$ 80,519.00
Structure (Urban G-1)	881,888.00	689,548.00	192,340.00
Subtotal	$1,251,070.00	$ 978,211.00	$272,859.00
Retained in Program (G-1)	14,795.00	11,568.00	3,227.00
Total Urban (G-1)	$1,265,865.00	$ 989,779.00	$276,086.00
Roadway (Rural G-2)	$ 387,939.00	$ 303,329.00	$ 84,610.00
Structure (Rural G-2)	901,931.00	705,219.00	196,712.00
Subtotal	$1,289,870.00	$1,008,548.00	$281,322.00
Retained in Program (G-2)	9,506.00	7,432.00	2,074.00
Total Rural (G-2)	$1,299,376.00	$1,015,980.00	$283,396.00
Total Cost	$2,565,241.00	$2,005,759.00	$559,482.00

Group 1 - 49% Group 2 - 51%
Contract No. 8250
Prefix No. 36-1068

CHEHALEM CR. (NEWBERG) SECTION

NONPARTICIPATING - STATE WORK

Setting Mailbox Posts (Bid Item)	16 only	50.00	$	800.00
Furnish Mailbox Posts	All Required			500.00

5050

1⅓

WILLIAM H. MORRISON
JACK H. DUNN
JAMES O. SMITH
NATHAN L. COHEN
F. BROCK MILLER
ROBERT R. CARNEY
THOMAS E. COONEY
RICHARD A. VAN HOOMISSEN
THOMAS S. MOORE
BOYD J. LONG
ROBERT L. ALLEN
THOMAS H. TONGUE
GEORGE J. COOPER, III
CHARLES D. RUTTAN
ROBERT K. WINGER
MICHAEL D. CREW
G. KENNETH SHIROISHI
GILBERT E. PARKER, JR.

MORRISON, DUNN, COHEN, MILLER & CARNEY
ATTORNEYS AT LAW
17TH FLOOR STANDARD PLAZA
PORTLAND, OREGON 97204
TELEPHONE (503) 224-6440

RALPH R. BAILEY (1902-1974)

September 23, 1976

Peter Kiewit Sons' Co.
One Thousand Kiewit Plaza
Omaha, NB 68131

Attention: John H. Ziegenbein, Counsel

RE: Oregon State Highway Dept. Contract No. 8250
Chehalem Creek (Newberg) Section
Claim by ASKA Structures, Inc.
Peter Kiewit Sons' Co. Job No. 5228

Gentlemen:

This office represents Laneguard, Inc. Your letter of September 10, 1976, concerning the claim filed by ASKA Structures has been referred to us. We do wish to advise that Laneguard disputes the claim. Laneguard would have no objection to the withholding of sufficient funds to cover the claim as you suggested in your letter.

Very truly yours,

Thomas S. Moore

Thomas S. Moore

TSM:al
cc: Secretary of State
cc: C. W. Head

RECEIVED
SEP 27 1976
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

8250

OREGON STATE HIGHWAY DIVISION

August 6, 1976

HIGHWAY BUILDING • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

Oregon State Treasurer
103 Capitol Bldg.
Salem, Oregon 97310

Attention: Merle Crowe

Re: Peter Kiewit Sons
Contracts 7857 & 8250

Please transfer $5,000 in U. S. Treasury Bonds currently deposited in lieu of retainage on contract 7857 to contract 8250. (Safekeeping Receipt 1976)

Vernon E. Skoog
Controller

by _____
Janice Peterson
Contract Payments Executive

JP:sew

cc: Peter Kiewit Sons' Co. Attn: Donald E. Baker
C. W. Head
R. Church
C. Barrett

August 2, 1976

Mr. Paul J. Rask
Attorney at Law
1022 Georgia-Pacific Building
Portland, OR 97204

Dear Mr. Rask:

This is to acknowledge receipt of your letter of July 27 with attached Notice of Claim of ASKA Structures, Inc., for furnishing materials in the amount of $942 plus interest.

This appears to be in connection with the Peter Kiewit Sons' Co., Contract No. 8250, Chehalem Creek (Newberg) Section in Yamhill County.

We note that you have filed copies with the Secretary of State, The Aetna Casualty and Surety Company and Peter Kiewit Sons' Co.

Please advise this office when this claim has been satisfied.

Very truly yours,

C. W. Read
COMMISSION SERVICES

CWH:fkn

cc Peter Kiewit Sons' Co.
215 South "V" Street
Vancouver, Washington 98663

The Aetna Casualty and Surety Co.
Bond Dept.
1201 SW 12th
Portland, OR 97205

NOTED ON BOND
8-2-76

PAUL J. RASK
ATTORNEY AT LAW
1022 GEORGIA-PACIFIC BUILDING
PORTLAND, OREGON 97204

AREA CODE 503
TELEPHONE 223-4118

July 27, 1976

Secretary of State
State of Oregon
Salem, Oregon

Re: Oregon State Project
No. 8250, Chehalem
Creek, Newberg

Dear Sir:

Enclosed please find a Notice of Claim for filing on behalf of ASKA Structures, Inc.

Very truly yours,

PAUL J. RASK

PJR:lp
Enclosure
cc: C. W. Head
cc: Peter Kiewit & Sons
cc: Aetna Casualty & Surety Co.
cc: Laneguard
cc: ASKA Structures, Inc.
cc: Thomas Moore

RECEIVED
JUL 28 1976
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

NOTICE OF CLAIM

To: Secretary of State
State of Oregon
Salem, Oregon

-and-

To: C. W. Head
Commission Service
Oregon State Dept. of Transportation
Highway Building
Salem, Oregon 97310

Re: Oregon State Project
No. 8250, Chehalem
Creek, Newberg

Notice is hereby given that the undersigned ASKA Structures, Inc., 3094 S. E. Tualatin Valley Hwy., Hillsboro, Oregon, 97123, has a claim for furnishing materials for sign brackets furnished by ASKA Structures, Inc., 3094 S. E. Tualatin Valley Hwy., Hillsboro, Oregon 97123, in the amount of $942.00 plus interest at the rate of 1% per month from March 24, 1976 (30 days after which final payment was due), against the bond taken from Peter Kiewit & Sons, 215 South V, Vancouver, Washington, and Aetna Casualty & Surety Company, 1201 S. W. 12th, Portland, Oregon, for the Chehalem Creek, Newberg Highway contract.

ASKA STRUCTURES, INC.

By: _____
Larry Smith, President

General Contractor: Peter Kiewit & Sons

Subcontractor: Laneguard Inc.
P. O. Box 563
Cornelius, Oregon 97113

RECEIVED
JUL 28 1976
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

36-1068

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

SALEM, OREGON 97310

DATE JULY 21, 1976

TO C.O. FREDRICKSON
REGION 2 ENGINEER

FROM WARREN E. MUELLER
RESIDENT ENGINEER

SUBJECT CHEHALEM CR. (NEWBERG)
PACIFIC HWY WEST
CONTRACT NO. 8250
DISPOSAL AREAS

Versteeg
Olson
Christensen
Scott
Swenson
Savage
Trout

RECEIVED
JUL 22 1976
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up ___/___/___
Other

There seems to be some confusion about our permit, with the Division of State Lands, for work in the stream bed of Chehalem Creek.

1. We have a permit, to construct the new bridge and highway fills, from the Division of State Lands, which expires July 23, 1976. Stream work was scheduled to be complete before that date.

2. The contractor has permits from D.E.Q. (8/29/75) and Yamhill Co. Solid Waste Committee (9/17/75) to dispose of excess material.

3. The disposal area was located upstream from the bridge site, at the rear of the trailer park. The area was supposed to be outside of the City of Newberg and they so indicated in 1975.

4. The City of Newberg employed a new City Engineer and building inspector about January 1976. The new engineer and inspector discovered the trailer court and area to the rear, to Chehalem Cr., was annexed to the city in 1973. The existing maps still do not show the current boundry.

5. The city building inspector asked the contractor to show his permits. This caused the city engineer to call D.E.Q. and read them off.

6. The city ordered the contractor to stop dumping in the Chehalem Cr. area. The city issued a permit to dump in another area near Morton St. A copy of the city permit is attached.

7. The City has permitted the contractor to, upon removal of the surface organic material, finish the slope with the material previously dumped.

WEM/ec
attach.
cc: Donald Trout (w/attach) ✓
file

PETER KIEWIT SONS' CO.

CONTRACTORS
ESTABLISHED 1884

MAIN OFFICE: OMAHA, NEBR. 68131
1000 KIEWIT PLAZA

July 13, 1976

ADDRESS REPLY TO:
P. O. Box 427
Newberg, Oregon 97132

Mr. Gene Baxter
Route, Box 32
Newberg, Oregon 97132

AND

Mr. Chris Floch
600 West Sheridan Street
Newberg, Oregon 97132

RE: OSHD Contract 8250
Newberg Job No. 5228

Gentlemen:

It is our understanding that there is a grade fill being made on the property located at 509 West 1st Street and 600 West Sheridan Street in the city of Newberg. It is also our understanding that these said properties are owned by the parties to whom this letter is addressed.

We are presently constructing a bridge across Chehalem Creek for the Oregon State Highway Department and are looking for a fill site to deposit excess materials in the form of soil, broken-up asphalt and broken-up concrete.

Therefore, we request permission from both parties to whom this letter is addressed to deposit these materials on said fill site. We agree to install a culvert pipe to maintain the existing drain pipe through the material which we deposit, and to level off the top of the fill area which we construct, and to cover it with soil if needed.

If this proposal is agreeable to you, please sign and date each copy of this letter, with each signatory party to retain a copy. A copy of this letter will be given to the city of Newberg and to the Oregon State Highway Department.

Gene Baxter
Gene Baxter, Owner

Date: 7-14-76

Chris Floch
Chris Floch, Owner

Date: 7-14-76

Respectfully,

PETER KIEWIT SONS' CO.

Dale F. Stidham

Dale F. Stidham
Project Engineer

27
NE
60 Ac
26
N 20,844.23
E 39,487.50
1900
5000
1500
.50 Ac
2301
.18 Ac
2300
82 Ac
600 W 2 0
SHERIDAN
2400
2500
2000
2100
2200
1700
1600
S U B.
1800
1900
2600
2700
2800
2900
3000
3100
509 W 1ST ST
19
20
21
22
23
24
FIRST
ST.
N 20,031.79
E 38,003.17
N 20,048.41
E 38,313.17
N 20,017.40
E 38,408.20
SEE MAP 3 2 19BD

#8250

BU ~~7-16-76~~ IW
~~7-21-76~~

Salem, Oregon
July 9, 1976

ORIGINAL SIGNED BY
DONALD L. TROUT

Donald L. Trout
Design Office Engineer

C. O. Fredrickson
Region Engineer

Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

This is to verify our phone conversation today concerning a complaint to the Division of State Lands from a Mr. Nims, City Engineer. The complaint was that we were dumping material along the riverbank that would be below future highwater.

A review of our permit from the Division of State Lands indicates it will expire on July 23, 1976. On June 1, 1976, I received the normal renewal notice from Division of State Lands. I was advised, however, by Mr. Warren Mueller, Resident Engineer, that all stream work would be complete before then and there was no need to renew the permit. If there is any change in this please let me know.

Also please give me some feed-back on the complaint so I can advise the Division of State Lands. If I can be of assistance, please call.

DLT:az
cc: Warren Mueller

Builders Are Required To Post This Notice
In a protected and conspicuous location on the premises.

[redacted]

PERMIT

Grading

No 3252

CITY OF NEWBERG, OREGON

TO Peter Kiewits Sons' Co. -600 W. Sheridan
509 W. First

Pursuant to your written application heretofore submitted to the Council of the City of Newberg, you are hereby authorized and licensed to grade **the** [redacted] prop **described in said application in accordance with the building ordinances of said City.**

By Order of the Council.

Dated this 14th **day of** July, 1976

1. _____
2. _____
3. _____

Building Inspector

Bob Weisenback
Building Official of the City of Newberg

(NOTICE: Building Permit automatically expires unless construction is begun within 90 days from date of issuance.)

8250

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

May 17, 1976

Oregon State Treasurer
103 State Capitol Bldg.
Salem, Oregon 97310

Attention: Merle Crowe

Re: Peter Kiewit Sons
Contract 7857 & 8250

Please transfer $45,000 in U.S. Treasury Bonds deposited in lieu of retainage on contract 7857 to contract 8250 (Safe-keeping Receipt 2014).

Contract retainage on 7857 has been reduced to $5,000.

V.E. Skoog
Controller

By _____
Janice Peterson
Contract Payments Executive

JP/jm

cc: Peter Kiewit Sons, Co.

bc: C.W. Head
J. Bond
R. Church
C. Barrett

~~2W~~ 1W

FORM 81-734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

April 8, 1976

Salem, OR 97310

FILE: ROW 18-2

FROM: J. E. Chidsey
Railroad & Utility Engr.

TO: Warren Mueller
Resident Engineer

S A L E M

SUBJECT: Striping Plan
Chehalem Cr. (Newberg) Sec.
Pacific Highway West
Yamhill County
Contract No. 8250

I have presented the proposal for the striping at the grade crossing of Pacific Highway West with the Newberg Branch tracks of the Southern Pacific Trans. Co. in Newberg to the PUC office. They reviewed your proposal and have agreed to accept the plan calling for the installation of raised asphaltic concrete traffic islands in the continuous left turn lane at the crossing utilizing the existing drop arm gate on the east side of the crossing. This is the plan that does not require any rotation of the crossing gate.

With this approval by PUC, you are now in a position to do the necessary striping at this location when it is required. No action through the PUC office will be required in as much as there is no functional change at the grade crossing.

JEC:jk

cc: C. O. Fredrickson
J. L. Sollis
D. N. Stoddenmeyer

1 Versteeg ✓
2 Olson
3 Christensen
Scott
Swenson
Stowe
Trout

RECEIVED
APR 9 1976
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To:
Bring Up: __/__/__
Other

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

January 7, 1976

Salem, OR 97310

FILE: ROW 18-2

FROM: J. E. Chidsey
Railroad & Utility Engineer

TO: C. O. Fredrickson
Regional Engineer

EAST SALEM HWY. BLDG.

Attn: Jerry Wimer

SUBJECT: Proposed Stripping Plans
Chehalem Cr. (Newberg) Sec.
Pacific Highway East
Yamhill County

I presented the proposal for the addition of a continuous left turn lane on the subject section in the vicinity of the railroad crossing to the PUC office. Their first observation was that they could see no good reason for a left turn lane being constructed in the vicinity of the crossing in as much as there are other means for traffic to gain access to any facility that would be served by this left turn lane.

In order to construct this left turn lane, it would be necessary to replace the cantilever flashing lights and drop arm gates utilized by the south bound traffic. The cantilever flashing lights would have to be extended outward so that one flashing light was centered on the proposed left turn lane. The gate arms would have to be extended to completely block the left turn lane which would require a gate arm approximately 50-foot in length. The existing gate arm mechanism would not be capable of handling a 50-foot gate arm and consequently would have to be replaced.

The cantilever flashing light and drop arm installation for the north bound traffic would also have to be extended over what is presently proposed. Again the gate arm would have to be around 48 feet in length which would require a much heavier mechanism than is currently planned plus the cantilever structure would have to be extended to place a flashing light over the left turn lane. A rough estimate of the additional cost to the project for the railroad signal revisions is approximately $40,000.

In addition, the Southern Pacific Trans. Co. would not view favorably having to maintain drop arm gates with arm lengths of the magnitude required. It is their experience that gate arms at this length are very susceptible to breakage and the maintenance on these arms is quite clostly. As a result, they would probably insist that we participate in the maintenance of these gate arms which is a factor that we do not desire to undertake.

From the comments I have received, it would appear that the inclusion of a continuous left turn lane through the railroad grade corssing would not be viewed favorably by both the PUC and the Southern Pacific Trans. Co. This being the case, it would appear rather doubtful that permission could be obtained from the Public Utility Commissioner's office for this left turn to be installed. If it is desired to pursue this matter, please contact me and I will formally request a revision to the pending application to the PUC for the modification of the existing grade crossing. If there is any further information I can provide you, please contact me.

JEC:jk

cc: J. L. Sollis
D. N. Stoudenmeyer
Warren Mueller

RECEIVED
JAN 7 1976
ROAD

FORM 61.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

December 31, 1975

Salem, OR 97310

FILE: ROW 18-2

FROM: J. E. Chidsey
Railroad & Utility Engineer

SUBJECT: Review of Stripping Plans
Chehalem Cr. (Newberg) Sec.
Pacific Highway East
Yamhill County

TO: C. O. Fredrickson
Regional Engineer

S A L E M

Attn: Jerry Wimer

I have reviewed your letter of December 12, 1975, to D. N. Stoudenmeyer regarding your proposed changes to the stripping plans for the subject project. The print you forwarded to me apparently does not contain the Region's proposal, but is a print of the original stripping plan. As I understand your proposal, you desire to install a two-way turning lane from approximately Harrison St. to Third St. This would place the turning lane across the railroad grade crossing and it is my feeling that this would not be viewed favorably by the PUC. The existing gate on the east approach to the grade crossing may not be of sufficient length to adequately bar the movement of traffic in this left turning lane when a train is approaching the grade crossing. This would also require a longer gate arm be installed on the weat approach to the crossing which is not presently anticipated. The PUC might also require an additional flashing light be placed over this left turning lane which would not be possible with the existing cantilever light structure on the west approach.

Please forward to me a copy of the Region's stripping proposal so that I may review this and determine if the concurrence of PUC is required for this proposal.

JEC:jk

cc: J. L. Sollis
D. N. Stoudenmeyer
Warren Mueller

1-5-76

RECEIVED
1976
ROAD
DESIGN

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE: 36-1068

Salem, Oregon

December 12, 1975

FROM: C. O. Fredrickson
REGIONAL ENGINEER

SUBJECT: Review of Striping Plans
Chehalem Creek (Newberg) Section
Pacific Highway East

TO: D. N. Stoudenmeyer
PRELIMINARY DESIGN SUPERVISOR

We have been corresponding with the City of Newberg to establish a two-way turning lane from the west end of the one-way couplet to Third Street. This will take some parking prohibition on their part from the connection to West First Street to Harrison Street. The preliminary indication is that they would be willing to do this and are in favor of the installation of this lane. Attached is a sketch showing the layout of this striping. Please revise the striping plan to include this. With this in mind the two edge stripes should be dropped at Third Street.

Other than this item we are in agreement with the striping plans as they are drawn.

cc: Warren Mueller

RK:bw

1 Verstegg
2 A. Olson
Terpin
Scott
Swenson
R. Olson
Trout

RECEIVED
DEC 23 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up
Other

Sec 19, T3S, R2W, W.M.

CHEHALEM CR. (NEWBERG) PACIFIC HIGHWAY WEST YAMHILL COUNTY		
FED ROAD DIV. NO.	STATE	PROJECT NUMBER
10	OREGON	U-RF-52(10)

HARRISON ST

N. MORTON ST.

W. 1ST. STREET

OLD HIGHWAY 99W

Southern Pacific Trans Co R R

R R R/W

B - B

Match Exist'g Pvmt.

Ground Line @ "L"

Subgrade

"L" 160' V.C.

"L" 300' V.C.

"L" 400' V.C.

250' V.C.

12" Sewer Pipe

+75 F.L. 160.50 Inlet

+22 F.L. 156.50 Inlet

Inlets - 2 (Total)

Pipe - 60' (Total)

To Sta. "L" 21 + 50

Pipe - 290'

"CG-1" Inlet

Access Conf

Gravel

FT U-RF-52(10)

Sec 19, T3S, R2W, WM.

CHEHALEM CR. (NEWBERG) — PACIFIC HIGHWAY WEST — YAMHILL COUNTY

HIGHWAY NO.	STATE	PROJECT NUMBER
10	OREGON	U-RF-52(10)

HARRISON ST

"LS" LINE

"L" LINE

RR R/W

Southern Pacific Trans Co RR

S 44°25'47" W

W 1ST STREET

N. MORTON ST.

OLD HIGHWAY

Access Conn

Gravel

E - E

Drop Arms (Standard Others)

Match Exig Pvmt

Ground Line @ "L" ℄

Subgrade

12" Sewer Pipe

+75 F.L. 160.50 Inlet

+22 F.L. 156.50 Inlet

250' V.C.

"L" 100' V.C.

"L" 300' V.C.

"L" 160' V.C.

ST U-RF-52(10)

9+40

Emb 3937

Exc 187

Borrow Exc 4931

OREGON STATE HIGHWAY DIVISION

Order for State Force Work

Contract No. 8250

APPLYING TO CONTRACT PROJECTS

Order No. 4

Section CHEHALEM CR. (NEWBERG) Date MARCH 30, 19 7

Highway PACIFIC HIGHWAY WEST F.A.P. No. U-RF-52(10)

County YAMHILL Prefix 36-1068 Account No. 276-04

Description of Work To Be Done: INSTALL ONE (1) OPUC STANDARD NO. 2B CANTILIVER FLASHING LIGHT AND ONE (1) OPUC NO. 4 AUTOMATIC GATE AND IMPROVE GRADE CROSSING.

Location by Station Numbers: S.P.T.C. CROSSING CROSSING #P-748.2 PACIFIC HWY WEST (NEWBERG)

Estimate of Quantities and Costs: AS PER EXHIBIT "A" $13,535.00

APPROVED EFFECTIVE DATE 3-30-76
Contingent upon modification of prop
est [illegible] funds are
required.
BY D. K. Hansen
Div. Administrator
TITLE Dist. Engineer
DATE 4-29-76
FEDERAL HIGHWAY ADMINISTRATION

Explanation: SOUTHERN PACIFIC TRANSPORTATION CO. WILL INSTALL ONE CANTILEVER FLASHING LIGHT, ONE AUTOMATIC GATE AND IMPROVE GRADE CROSSING P-748.2 AT PACIFIC HWY. WEST AS DETAILED IN ATTACHED EXHIBIT "A" AND SHOWN ON DWG. NO A 5258. REIMBURSEMENT FOR THE WORK PERFORMED ON AND SUBSEQUENT TO MARCH 30, 1976 WILL BE MADE SUBJECT TO THE PROVISIONS OF SERVICE CONTRACT NO. 76-002 UPON RECEIPT OF SPOT CHARGES.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After final approval, two copies will be sent to the Regional Engineer and one copy to the Resident Engineer.

Project authorization	$2,595,474.00
Present estimate of project cost, including $ 13,535 for work under this order	$2,595,474.00
Expected under-run / over-run (amount)	$ 0.00
Expected under-run / over-run (per cent)	0.00

Spare to right of this line is for use of Salem Office

Submitted by: Warren E. Mueller
Warren E. Mueller
Resident Engineer

Approval Recommended: [signature]
Regional Engineer

Approval Recommended: [signature]
For Construction Engineer & Bridge Engineer

Approved: [signature]
Construction Engineer

Order No. 76-214
PUC Crossing No. P-748.2
DOT Crossing No. 754 053 G

BEFORE THE PUBLIC UTILITY COMMISSIONER

OF OREGON

SXF 777

In the matter of the application of the State of Oregon by and through its Department of Transportation, Highway Division, for the authority, pursuant to ORS 763.030, to alter a grade crossing of Pacific Highway West (1st Street) and Southern Pacific Transportation Company, Newberg Branch, in Newberg, Yamhill County, Oregon.

ORDER

On or about July 30, 1975, the State of Oregon, by and through its Department of Transportation, Highway Division, duly filed an application with the Commissioner seeking authority, pursuant to ORS 763.030, to alter an existing grade crossing of Pacific Highway West (1st Street) and single track of Southern Pacific Transportation Company, Newberg Branch, in Newberg, Yamhill County, Oregon.

Applicant proposes to widen the eastbound lanes from an existing 26 feet to 32 feet plus a variable width median and to install one standard cantilevered flashing light signal with gongs and one standard automatic gate on the west side of the crossing to replace the existing flashing light signal and automatic gate.

By letter dated August 27, 1975, Commissioner's staff stated that where application reads "North" or "N" it should read "East" or "E" and where application reads "South" or "S" it should read "West" or "W". By letter dated September 3, 1975, applicant concurred that the directions should be amended as above.

By letter dated November 28, 1975, Southern Pacific stated it has no objection to the application, except for a correction to item 2b(2). By letter dated December 2, 1975, applicant stated it had no objection to the correction proposed by Southern Pacific.

Copies of the application and responses thereto were duly served on Southern Pacific Transportation Company, City of Newberg, Yamhill County, and Portland General Electric Company. No objection has been made by any party to the granting of the application as amended.

Due consideration has been given to the application, the letters of amendment, and the responses thereto. No matters within the scope of ORS

Order No. 76-214

Made, entered and effective March 29, 1976.

PUBLIC UTILITY COMMISSIONER OF OREGON

CHARLES DAVIS
Public Utility Commissioner

Order No. 76-214
PUC Crossing No. P-748.2
DOT Crossing No. 754 053 G

BEFORE THE PUBLIC UTILITY COMMISSIONER

OF OREGON

SXF 777

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Copies of the application and responses thereto were duly served on Southern Pacific Transportation Company, City of Newberg, Yamhill County, and Portland General Electric Company. No objection has been made by any party to the granting of the application as amended.

Due consideration has been given to the application, the letters of amendment, and the responses thereto. No matters within the scope of ORS

Chapter 763 are in issue and no hearing is required.

Based upon the application as amended, the files and field investigation of the Commissioner, it is found that the application should be granted upon the following terms and conditions. It is therefore

ORDERED that:

(1) The authority to alter the crossing as requested herein is granted.

(2) Applicant shall:

(a) Bear 100 percent of the cost of constructing the crossing and of furnishing and installing the automatic signalization ordered herein;

(b) Furnish, install and maintain standard advance warning signs and standard advance warning pavement markings at appropriate locations on the roadway approaches to the crossing and bear all the cost thereof;

(c) Construct and maintain that part of the crossing area lying outside lines drawn two feet outside each rail and bear all the cost thereof; and

(d) Notify the Commissioner upon completion of its portion of the project.

(3) Southern Pacific Transportation Company shall:

(a) Subject to reimbursement as provided herein, furnish and install one Commissioner's Standard No. 2B cantilevered flashing light signal equipped with a gong and supplemented with one Commissioner's Standard No. 4 automatic gate to be located on the west side of the crossing for control of eastbound traffic, and one grade crossing predictor unit to activate these signals;

(b) Subject to reimbursement as provided herein, construct that part of the crossing area lying between lines drawn two feet outside each rail;

(c) Maintain the automatic protection ordered herein and maintain that part of the crossing area lying between lines drawn two feet outside each rail and bear all the cost thereof; and

(d) Notify the Commissioner upon completion of its portion of the project.

8250

March 25, 1976

TO G. L. Green, Division Administrator
Federal Highway Administration

FROM L. W. Rulien
Project Management Engineer

SUBJECT Railroad Agreement
Project No. U-RF-52(10)
Chehalem Creek (Newberg) Section

We are forwarding two copies of a fully executed agreement between the Southern Pacific Transportation Company and the Oregon Transportation Commission for the subject project.

This agreement was approved by the Oregon Transportation Commission on March 1, 1976 and we request your authorization to proceed with actual work by the railroad effective March 1, 1976. The estimated total cost for work by the railroad is $13,535 with federal funds of $10,583 which is all chargeable to Urban Extension funds.

We request that one copy of the agreement be returned approved for our files.

CL:re

cc: D. E. Swan
J. E. Chidsey

ROW 18-2

OREGON STATE HIGHWAY DIVISION

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator and
State Highway Engineer

March 5, 1976

Southern Pacific Trans. Co.
One Market Street
San Francisco, CA 94105

Attn: W. J. Jones

Service Contract No. 76-002
Crossing No. P-748.2
Pacific Highway (Newberg)
Yamhill County

Dear Sir:

Enclosed are the original duplicate counterparts of Service Contract No. 76-002 covering the modifications necessary to existing grade crossing protection devices at the crossing of the Pacific Highway and the Newberg Branch of Southern Pacific Trans. Co. in Newberg, Yamhill County, Oregon. This Agreement has been approved by the Chairman of the State Transportation Commission and signed by the Deputy State Highway Engineer. Please have both copies of the Service Contract executed by your Organization and return the duplicate copy to me for our files. Upon execution of this Service Contract, Southern Pacific Trans. Co. will have the State's permission to proceed with the work outlined in this Agreement.

Yours truly,

J. E. Chidsey, P. E.
Railroad & Utility Engineer

JEC:jk
Enc.

cc: SPTC - Portland

bc: F. B. Klaboe
C. W. Head
J. L. Sollis
J. B. Boyd

RECEIVED
MAR 22 1976
Office of
Assistant State Highway Engineer

Form 81-734-3123

#8250

B

Adele Egan
Right of Way Branch

March 3, 1976

C. W. Head
Commission Services

Attached are two copies each of service contracts with Southern Pacific Transportation Company for installation of flashing lights and drop arm gates at the following crossings:

Territorial Road near the Pacific Highway East in Clackamas County.

Gardens Road near the Pacific Highway East in Clackamas County.

Pacific Highway West in Newberg, Yamhill County.

Springfield-Creswell Highway (Oregon Street) in Creswell, Lane County.

RAILROAD COMPANIES
FILE No. 8.6

Please have the Railroad Company date and sign each agreement. We have retained conformed copies until the fully executed originals are returned to this office for the Transportation Commission's files.

fkn
Attc.

#8250 3-1-76

U. S. DEPARTMENT OF TRANSPORTATION - FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.: -RF-52(10)

STATE PROJECT NO.: Chehalem Cr (Newberg)

FROM: G. L. Green, Division Administrator
Salem, Oregon

PROGRAM NO.:

ITEM NO.: U-192

COUNTY NAME: Yamhill

PROGRAM STAGE (Check) 1. 2.

TO:

Mr. F. B. Klaboe
Administrator & State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
APR 14 '76
REFER TO Rulien
FOR
Info | Invest | R/D | D/R | Sign | Act | File

DATE P,S&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
5/28/75	3/1/76	Primary Route 9	Primary Route 1W

GENERAL LOCATION:

City of Newberg

GENERAL DESCRIPTION OF WORK:

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

PRELIMINARY ENGINEERING TO DETERMINE
☐ LOCATION ONLY

PRELIMINARY ENGINEERING FOR SURVEY AND PLAN
☐ PREPARATION

☐ OTHER (Specify)

☐ ACQUISITION OF RIGHT-OF-WAY

CONSTRUCTION - ADVERTISE FOR RECEIPT
☐ OF BIDS

☒ CONSTRUCTION - PROCEED ON XXXXXXXX XXXXXXXXXXX FORCE ACCOUNT BASIS

REMARKS

My program approval memorandum of 5/28/75 approved this project for inclusion in the Federal-aid program.

As requested in Mr. Rulien's 3/25/76 letter you are authorized to proceed with the work covered by the Agreement with the Southern Pacific Transportation Company, approved by the Highway Division on March 1, 1976, at a total estimated cost of $13,535, Federal funds $10,583. A signed copy of the Agreement is returned herewith.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
3/1/76	G. K. Hassner	Division Administrator

FORM PR-1240 (REV. 8-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

☆ U. S. GOVERNMENT PRINTING OFFICE: 1975—631-888

8250

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator and
State Highway Engineer

OREGON STATE
HIGHWAY DIVISION
HIGHWAY BUILDING

January 9, 1976

Oregon State Treasurer
103 Capitol Building
Salem, OR 97310

Attention: Emily Rohde

Re: Peter Kiewit Sons'
Contracts 7857, 8234, 8250

Please transfer $200,000 in U. S. Treasury Bonds currently deposited in lieu of retainage on contract 7857 (Safekeeping Receipt 1547) to contract 8234, $130,000 and 8250, $70,000. This should leave $50,000 in Treasury Bonds currently deposited in lieu of retainage on contract 7857.

Vernon E. Skoog
Controller

by

Janice Peterson
Contract Payments Executive

JP:pl

cc: Peter Kiewit Sons'

bc: ~~C. W. Head~~ R. Church
J. Bond C. Barrett

NOTED
C. W. HEAD

Form 81-734-3122

8250

file B

August 4, 1975

MISC. RAILROAD CONTRACTS AGREEMENT No. 39785

City of Newberg
City Hall
Newberg, Oregon 97132

Attention: M. C. Gilbert
City Recorder

Gentlemen:

Attached for your records is a supplemental agreement concerning a revision of plans for the construction of the Chehalem Creek (Newberg) Section of the Pacific Highway West in Yamhill County.

We have retained a fully executed copy of this agreement for the Transportation Commission's files.

Very truly yours,

C. W. Head
COMMISSION SERVICES

CWH:FN:dp

bc: Don Harwell

(Conformed Agreement Attached)

8-5

R

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

July 29, 1975

Mr. David J. Astle
Administrator
Railroad Division
Labor and Industries Building
Salem, Oregon 97310

RE: Chehalem Creek (Newberg) Sec. Contract No. 8250 PUX 1004

Dear Mr. Astle:

Enclosed is an original and 8 copies of the Application of the Department of Transportation, Highway Division, in the above-subject matter.

Two of the copies are for service upon Southern Pacific Transportation Co., one copy for service upon Yamhill County, one copy for service upon City of Newberg, one copy for service upon Portland General Electric Co., and three copies are for use by your office.

Very truly yours,

LEE JOHNSON
Attorney General

Jack L. Sollis
Assistant Attorney General

JLS:kw
enclosures
cc: F. B. Klaboe ✓
C. O. Fredrickson
C. T. Keasey
James E. Chidsey
D. N. Harwell

RECEIVED
STATE HWY ENGR
JUL 30 '75
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

RECEIVED
Jul 1975
Office of
Assistant State Highway Engineer

NOTED
H.S.COULTER

PUC Docket No. SXF

PUC Cross' No. P-748.20

DOT-AAR Crossing No. 754 053 G

BEFORE THE PUBLIC UTILITY COMMISSIONER OF OREGON

APPLICATION FOR AUTHORITY in connection with a proposed railroad-highway crossing project

Formal Title:

In the matter of the application of State of Oregon by and through its
(name of applicant)

Department of Transportation, Highway Division

for the authority, pursuant to ORS 763.030
(020/030/040), to

Alter (construct/alter/change protection at/relocate/close) a grade (grade/separated) crossing

of Pacific Highway West (1st Street)
(name of street or highway)

and Southern Pacific Transportation Company
(name of railroad company),

Newberg Branch
(name of railroad main or branch line or other trackage),

in (in/near) Newberg (name of city/town/rail station), Yamhill (name of county) County,

Oregon.

Check one of the following:

Allocation of funds from one of the following sources is requested or expected--

☐ State grade crossing protection fund.
Estimate of dollar cost to fund: $_____

☒ Federal-Aid Highway System funds.*

Federal Aid - Urban System

☐ Other Federal Funds, such as "Safer Roads Demonstration Program" funds.*

_____

☐ None of above.

*If Federal Fund assistance is expected, please give appropriate federal statutory provision.

BE[illegible]E THE PUBLIC UTILITY COMMISSIONER OF OREGON

APPLICATION FOR AUTHORITY in connection with a proposed railroad-highway crossing project

---

Check one of the following and answer all of Section I, plus all other parts of the application indicated beside that item.

(1) _____ Construction of a new public highway/bikeway over an existing railroad at grade. Answer: Sec. I, II, V, as appropriate.

(2) _____ Construction of a new railroad track or tracks over an existing public highway at grade. Answer: Sec. I, II, V, as appropriate.

(3) _____ Construction of a new public highway over or under an existing railroad. Answer: Sec. I, III, V and #12 (a)(1) & (b)(1).

(4) _____ Construction of a new railroad track or tracks over or under an existing public highway. Answer: Sec. I, III, V and #12 (a)(1) & (b)(1).

(5) _X_ Alteration/relocation of an existing public highway at an existing grade crossing. Answer: Sec. I, II & V.

(6) _____ Alteration or relocation of existing railroad trackage at an existing grade crossing. Answer: Sec. I, II & V.

(7) _____ Separation of an existing grade crossing. Answer: Sec. I, III, V and #12 (a)(1) & (b)(1).

(8) _____ Alteration of an existing separated crossing. Answer: Sec. I, III & V.

(9) _____ Removal of a track or tracks from an existing grade crossing. (If this is all that is involved, no application is required. Please notify us in writing.)

(10) _____ Addition of a track or tracks at an existing grade crossing. (See 6 above and answer as indicated.)

(11) _____ Addition of protective devices at an existing crossing. (Simplified form AS-1/75 can be used if no other alteration is involved at the crossing in question. Otherwise, answer as indicated under 5 above.)

(12) _____ Addition or removal of stop sign protection at an existing crossing. (Simplified form SS-1/75 may be used if this is all that is involved. Otherwise, answer as indicated under 5 above.)

(13) _____ Closure of an existing grade crossing. Answer: Sec. I, IV and the applicable portions of #'s 11, 12 & 13.

(14) _____ Other (please specify) _____

_____

Note: TO SAVE PAPER WHEN COMPLETING THIS FORM, IF IT IS FOUND THAT NO RESPONSES ARE REQUIRED ON ANY PARTICULAR PAGE(S), PLEASE OMIT SUCH PAGE(S) FROM YOUR APPLICATION. ALL SUCH OMISSIONS MUST BE SPECIFIED ON THE SIGNATURE PAGE.

IMPORTANT: PLEASE READ NOTE AT BOTTOM OF PRECEDING PAGE BEFORE COMPLETING THIS FORM.

SECTION I. (To be filled out completely by all applicants.)

1. Name of Applicant: State of Oregon Dept. of Transportation, Highway Division

   Address: State Highway Building, Salem, OR 97310

2. Statutory authority under which this application is made:

   763.030
   (ORS 763.020/030/040)

   Note: If a new grade crossing is proposed -- ORS 763.020; if an existing crossing is to be altered -- ORS 763.030; if a new separated crossing is proposed -- ORS 763.040.

3. Location of the proposed project:

   Railroad milepost 748.20

   City Newberg

   Nearest railroad station Newberg

   County Yamhill

   The proposed project is to be in the NE 1/4 of the NW 1/4 of Section 19, Township 3S, Range 2W, W. M.

4. Name of public highway involved in this project:

   Pacific Highway

   Name of public authority with jurisdiction over this highway:

   Oregon Department of Transportation

5. Name of railroad involved in this project: Southern Pacific Transportation Co., Newberg Branch
   (include name of branch, main line or other track)

6. List the proper parties of interest in this matter:

   a. Southern Pacific Transportation Company
   b. City of Newberg
   c. Yamhill County
   d. Oregon Department of Transportation
   e. Portland General Electric Company
   f.

   Have you served each of these parties with a copy of this application?

   NO
   (yes/no)

   If yes, please provide certificate of such service. (We would prefer to serve the application ourselves.)

(2) Width---The highway is 62 feet wide

ing

7. Describe the project in detail (including its purpose):

Widen northbound lanes from an existing 26' to 32'. plus a variable width median to more safety carry the traffic

8. Is the project contemplated required by the public safety, necessity, convenience and general welfare? Yes

If yes, why? To provide adequate protection for the motoring public.

9. Is the crossing involved (to be) a separated crossing? no

Section II. Grade Crossings (If a separated crossing is involved in this application, answer 12 (a)(1) and 12 (b)(1), then go on to Section III.)

10. Is it possible or practical to construct a separated crossing at this location? No

If no, why not? No funds available

11. Physical description of the crossing:

a. The Highway

(1) Alignment---Describe the highway alignment for 1000 feet on each approach, both before and after the project: Northbound on 99W 4°30' curve right to a 4° curve right crossing RR tracks to a 100' tangent to a 6° curve right to tangent on 1st Street.

(2) Width---The highway is 62 feet wide at the crossing at present; after completion of the project, it will be 68 feet wide at the crossing; consisting (from N (N or E) to S (S or W)) of:

At present--	After completion--
Shoulder* of 8 feet	Shoulder of 8 feet
2 lane(s) at 12 ft.each	2 lane(s)at 12 ft.each
Median of 4 feet	Median of 4 feet
2 lane(s) at 12 ft.each	2 lane(s)at 12 ft.each
Shoulder of 2 feet	Shoulder of 8 feet

Explanation, if necessary 5 foot sidewalks

* If highway is curbed to crossing, "shoulder" is assumed to mean "parking area".

(3) Surface---

	At present:	After completion:
Type of surface on traveled way:		
on approaches	Asphalt	Asphalt
at crossing	Wood	Wood
Type of surface on shoulders:	Asphalt	Asphalt
Condition of surface:		
on approaches	Good	Good
at crossing	Good	Good
Is the highway curbed on the approaches?	Yes	Yes

(4) Gradient, going toward crossing on--

	At present:	After completion:
N (N or E) approach	± +.54 %	± +.54 %
S (S or W) approach	± +.75 %	± +.75 %

(5) Nearest public roadway intersection on each approach---

(a) N (N or E) approach: 200 ft; ADT 600 (est.)

(b) S (S or W) approach: 490 ft; ADT 400 (est.)

Name of road or highway:

(a) Harrison Street

(b) Street connection (to old Highway)

Public authority with jurisdiction over road or highway:

(a) City of Newberg

(b) Oregon Department of Transportation

(If different public authority than that with jurisdiction over road at crossing, please add name to list of parties of interest in this matter--see item 6 of this application form.)

Are traffic signals (to be) installed at either of these intersections?

(a) No (yes/no); (b) No (yes/no).

If yes to either, please explain below which intersection(s) is (are) (to be) signalized, and whether or not this signalization is (to be) interconnected with track circuitry on the railroad. If it is, are part-time turn restriction signs (to be) installed? (If there is to be interconnected circuitry, please include the interconnection and part-time turn restriction signs as items of protection proposed herein. If traffic signals at the adjacent intersection are to be installed in connection with this project, and if costs of same are to be partially borne by the railroad and/or the state grade crossing protection account, they should also be listed under item 14 herein.)

b. The Railroad

	At present:	After completion:
(1) Number of tracks--- one	1	1

Name of each track from ____ (N or E) to ____ (S or W):

Newberg Branch Mainline

(2) Angle of intersection--- 34 ° 34 °

If more than one track-highway angle exists, please give details below, track by track:

---

(3) Alignment--- Describe the alignment of the railroad track(s) for 1000 feet in each direction, both before and after the project:

Tangent 1000' both before and after the project

(4) Nearest switch---

	At present:	After completion:
N (N or E) of crossing:	580 ft	580 ft
S (S or W) of crossing:	2000+ ft	2000+ ft

(5) Rail through crossing---

	At present:	After completion:
Weight of rail (lbs/yard):	-----	
Year installed:	------	
Year manufactured:	------	

If any rail renewal is to be done as part of this project, please give details below and include the number of compromise joints to be charged to the party or parties responsible for paying crossing construction costs:

12. Use of the crossing:

a. The Highway

(1) Average daily traffic volume---

At present: 10,170 ; After completion: 10,170 ;

Expected 5 years after completion: 11,000 .

(2) Speed of vehicles---

	At present:	Expected after completion:
300 ft from crossing on N (N or E) approach:	25 mph	25 mph
on S (S or W) approach:	25 mph	25 mph
At crossing:	25 mph	25 mph
Posted speed limit on approaches:	25 mph	25 mph

(3) Direction of traffic flow: N&S (N & S, etc.) _____

b. The Railroad

(1) Train movements--- (avg per day)

	At present:	Expected after completion:
Freight trains:	4	4
Switching movements:	0	0
Passenger trains:	0	0

(2) Speed of trains---

Maximum allowable:	10 mph	10 mph
Typical:	7 mph	7 mph
Slowest normal:	7 mph	7 mph

13. Visibility at the crossing from the standpoint of the approaching motor vehicle operator:

a. Of approaching trains--

(1) From a "stop" position (approx. 18 feet from edge of nearest rail) on the . . .	The motor vehicle operator can see along the railroad . . .
N (N or E) approach:	1500 ft to right; 1520 ft to left
S (S or W) approach:	1500 ft to right; 1500 ft to left

(2) From a "safe stopping distance" (see table on Page 8) on the . . .	The motor vehicle operator can see along the railroad . . .
N (N or E) approach:	800 ft to right; 1000 ft to left
S (S or W) approach:	250 ft to right; 270 ft to left

If these sight distances will be changed on completion of the project, please explain below:

No

Note: TABLE OF SAFE STOPPING DISTANCES ("SSD")

Typical Approach Speed	"SSD"	Typical Approach Speed	"SSD"
10 mph	44 feet	35 mph	210 feet
15 mph	69 feet	40 mph	256 feet
20 mph	98 feet	45 mph	306 feet
25 mph	131 feet	50 mph	360 feet
30 mph	169 feet	55 mph	418 feet

b. Of the proposed protective devices--

(1) Will vision of the protective devices to be installed at the crossing be obstructed on the main approach road within 1000 feet of the crossing? Yes (yes/no)

If yes, please explain by what and at what point it will be obstructed:

Auto's and trucks in traffic lanes

(2) If roadside-mounted protective devices (such as "STOP" signs or Standard No. 2 flashing light signals) are to be installed at the crossing, is the approaching driver's vision of these devices likely to be totally or partially obscured by parked vehicles? Yes (yes/no)

If yes, explain how you propose to overcome this problem:

Cantilever flashing lights, Standard No. 2B

If no, why not?

---

14. List the number and types of protective devices to be installed at the crossing and on its approaches:

Note: TYPES OF DEVICES

Commissioner's Standard No. 1R, reflectoried crossbucks
Commissioner's Standard No. 1S, vehicle "STOP" signs
---Commissioner's Standard No. 2, flashing light signals with gongs
---Commissioner's Standard No. 2B, cantilevered flashing lights w/gongs
Commissioner's Standard No. 4, automatic gate signals*
Traffic signals at adjacent intersection**
Track circuitry to interconnect with traffic signals
Part-time turn restriction signs**
Standard advance warning signs
Standard advance warning pavement markers
Standard "STOP AHEAD" signs
Standard railroad "STOP" signs

* To be used in conjunction with Standard No. 2 or No. 2B flashing light signals. Please indicate which it will be.

** Please furnish description of traffic signal operation, including standard phasing and phasing upon train activation.

a. Protection type: Commissioner's Standard #2B cantilevered flashing lights w/gongs
Commissioner's Standard #4 automatic gate signals
Number of such devices: 1 ; To be located as follows: Located on south side of crossing for control of northbound traffic

(1) Who will perform the installation? Southern Pacific Trans. Co.

(2) Estimated cost of installation: $20,000 ***

(3) Who will pay for said installation?

Name of Party	Percent of Cost
Oregon Dept. of Transportation	100

(4) Who will maintain these devices? Southern Pacific Transportation Co.

(5) Who will pay for said maintenance?

Name of Party	Percent of Cost
Southern Pacific Transportation Company	100

*** Include cost of furnishing the protective device(s).

b. Protection type: Advance warning signs & Pavement markers

Number of such devices: 1 ; To be located as follows: South side of crossing for control of northbound traffic

(1) Who will perform the installation? Oregon Department of Transportation, Highway Division

(2) Estimated cost of installation: $300 ***

(3) Who will pay for said installation?

Name of Party	Percent of Cost
Oregon Department of Transportation, Highway Division	100

(4) Who will maintain these devices? Oregon Department of Transportation

(5) Who will pay for said maintenance?

Name of Party	Percent of Cost
Oregon Dept. of Transportation, Highway Div.	100

c. Protection type: _____

Number of such devices: _____; To be located as follows: _____

(1) Who will perform the installation? _____

(2) Estimated cost of installation: $_____ ***

*** Include cost of furnishing the protective device(s).

(3) Who will pay for said installation?

Name of Party	Percent of Cost
_____	_____
_____	_____
_____	_____

(4) Who will maintain these devices? _____

(5) Who will pay for said maintenance?

Name of Party	Percent of Cost
_____	_____
_____	_____

15. Who will construct the crossing?

a. Between the rails and for a distance of two feet outside thereof:

Southern Pacific Transportation Company

Estimated cost of this portion: $ 2,000 .

Note: These costs include rail renewal, compromise joints, ballasting, ties, tie plates, angle bars, crossing materials and installation of all these items.

b. Remainder of crossing area: Oregon Dept. of Transportation, Highway Division

16. Who will pay for such construction and in what proportion?

a. Between the rails and for a distance of two feet outside thereof:

Oregon Department of Transportation, Highway Division

b. Remainder of crossing area: Oregon Dept. of Transportation, Highway Div.

17. Who will maintain the crossing?

a. Between the rails and for a distance of two feet outside thereof:

Southern Pacific Transportation Company

b. Remainder of crossing area: Oregon Dept. of Transportation, Highway Div.

18. Who will pay for said maintenance?

a. Between the rails and for a distance of two feet outside thereof:

Southern Pacific Transportation Company

b. Remainder of crossing area: Oregon Department of Transportation, Highway Division

19. If automatic protective devices are (to be) installed at the crossing, please answer the following:

a. What type of device will be used to activate them?

(Each track at the crossing should be covered in the answer.
Example: Main track--predictor units; Spur tracks--island circuits.)

Predictor Units

b. If automatic gates are to be installed, are there any overhead wires or other obstacles which might impair the operation of the gate arms? Yes

If so, describe the obstacles, identify the owner and make the owner a party of interest in this matter.

Portland General Electric Company

SECTION III. Separated Crossings

20. At the crossing, the highway will be _____ the railroad tracks.
(above/below)

If the highway is to be below the railroad, will the abutments be protected by impact attenuators? _____
(yes/no)

If no, please give reasons why attenuators are not necessary:

21. Who will construct the structure?

a. _____

b. _____

22. Who will pay for such construction?

Name of Party	Percent of Cost

23. Who will maintain the structure?

a. Up to the bottom of the beams except for the beam-bearing assemblies: _____

b. All highway appurtenances: _____

c. Above the bottom of the beams plus the beam-bearing assemblies: _____

d. Railroad tracks, railroad drainage and all railroad facilities: _____

24. Who will pay for said maintenance?

a. Up to the bottom of the beams except for the beam-bearing assemblies: _____

b. All highway appurtenances: _____

c. Above the bottom of the beams plus the beam-bearing assemblies: _____

d. Railroad tracks, railroad drainage and all railroad facilities: _____

25. Who will pay for damage to the structure caused by motor vehicle traffic on the highway? _____

26. Is a temporary impairment of standard clearance on the railroad necessary during the construction period? _____

If so, describe (and attach complete drawing): _____

27. Is a temporary crossing at grade necessary during the construction period?

_____
(yes/no)

If so, answer questions 11, 12, 13, 14, 15 and 16 in Section II and attach a complete drawing. The exact railroad milepost location of the temporary grade crossing is: _____.

How long is it contemplated that this temporary crossing will be necessary? (Furnish specific dates, if possible.) _____

_____

_____

_____

SECTION IV. -- PERMANENT CROSSING CLOSURE

(If an existing crossing is to be closed in connection with the construction of a new crossing, a crossing alteration and/or signalization project, or a separation project, please so indicate in item 40 of this form. If all parties of interest are expected to agree to such a closure proposal and if the closure proposal is not expected to be a matter at issue in a public hearing before the Commissioner, an answer to item 30 below is not required, but answers to the remaining items in this section are requested. If it is anticipated that the proposed closure will be a matter at issue in this proceeding, please provide a response to all items in this section.)

28. Name and location of crossing to be closed (if different from crossing described in items 3, 4 and 5 of this application):

_____

_____

_____

_____

(Please furnish railroad milepost, city or nearest railroad station, county, name of public highway, name of public authority with jurisdiction, and name of railroad company, branch, or other track.)

29. Describe in detail the two most likely alternate routes available to serve the same function served by the crossing to be closed:

Route A: _____

_____

Route B: _____

_____

30. How much circuity is involved in the use of each of these two alternate routes as measured from the midpoint of the area served by the existing crossing to major destination points or junction points with the route presently used?

Example: Route A-- 1500' additional to reach points SE of existing crossing; -0- feet to reach points NE of existing crossing; 2800' additional to reach points directly E of existing crossing.

Route A: _____

_____

Route B: _____

_____

31. Do either of these alternate routes involve use of another railroad-highway crossing? If so, which other crossing, how is it protected, and approximately how much traffic will be added to it if the crossing closure is granted?

Route A: _____

_____

Route B: _____

32. Will emergency services to or from the area served by the crossing to be closed be adversely affected? _____ (yes/no)

If yes, please include the appropriate Fire Department or Fire District and the appropriate local police agency as parties of interest in this matter under item 6 herein, and explain how much the effect will be and whether or not other steps can be taken to overcome this adverse effect: _____

_____

_____

_____

33. What protective devices are currently installed at the crossing to be closed?

_____

_____

34. Will a pedestrian and/or bicycle crossing be maintained at the site of the crossing to be closed? _____ (yes/no)

35. Who will close the crossing? _____

36. Who will bear the expense of closing the crossing? _____

_____

37. Who will maint[illegible] the barricades, if any, at the closed crossing?

38. Who will pay for said maintenance?

SECTION V. -- (To be completed by all.)

39. List all crossings located within one-half mile of the subject crossing in this matter and describe how they are protected: P-748.10 - Newberg, W. 3rd St., 2 cross-bucks; P-748.50 - Main & Sherman St., 2 cross-bucks, 1 light, 2 adv. warnings; P-748.50-C, Sherman St., 1 cross-buck; P-748.60 - Washington St., 2 cross-bucks, 1 advance warning sign.

40. Upon completion of this project, will it be possible to close any existing crossings in the area? No (yes/no)

If yes, list and explain:

If no, explain why not: All existing crossings in this area are necessary for the motoring public.

41. Other items of construction and cost distribution:

* *

42. Are the maps and drawings required by the Division IV Commissioner's Rules and Regulations attached to this application? Yes 12V - 118 Sheet #3 (yes/no)

PLEASE FURNISH SUFFICIENT COPIES OF THE APPLICATION AND DRAWINGS TO ENABLE US TO SERVE ALL PARTIES OF INTEREST (INCLUDING STATE HIGHWAY DIVISION, COUNTY, AND REGIONAL COUNCIL OF GOVERNMENTS) PLUS AN ORIGINAL AND ONE COPY FOR OUR USE.

The following enumerated page(s) have been omitted from this application because no response to the questions and/or information requested thereon is required in this matter: _____

Applicant prays for an order permitting construction in accordance with this application, or for such other and further order as may be proper in the premises.

Dated at Salem, Oregon, this 23 day of July, 1975.

J. P. Klabo
(Applicant)

James P. Lauer
(Attorney)

I, J. P. Klabo, being first duly sworn, say that I am the applicant in the within entitled cause, and that the foregoing application is true, as I verily believe.

J. P. Klabo

STATE OF OREGON)
County of) ss.

Subscribed and sworn to before me this 24 day of July, 1975.

James P. Lauer
(Notary Public for Oregon)

My Commission Expires: 12-18-76

Form AX-1/75
Signature Page

(1) Const. Type "C" Curb

(2) Const. P.C. Conc. Walk

(3) Const. Sidewalk Ramps - 7 (Total)

(4) Const. Street Connections - 3 (Total)

Note:
Setting Mailbox Posts - 16 (Total)
Drg No. 2051

(7) Adjust Manhole - 1

(8) Abandon Extg. Pipe

(9) Const. P.C. Conc. Driveways Type "A" - 4 (Total)

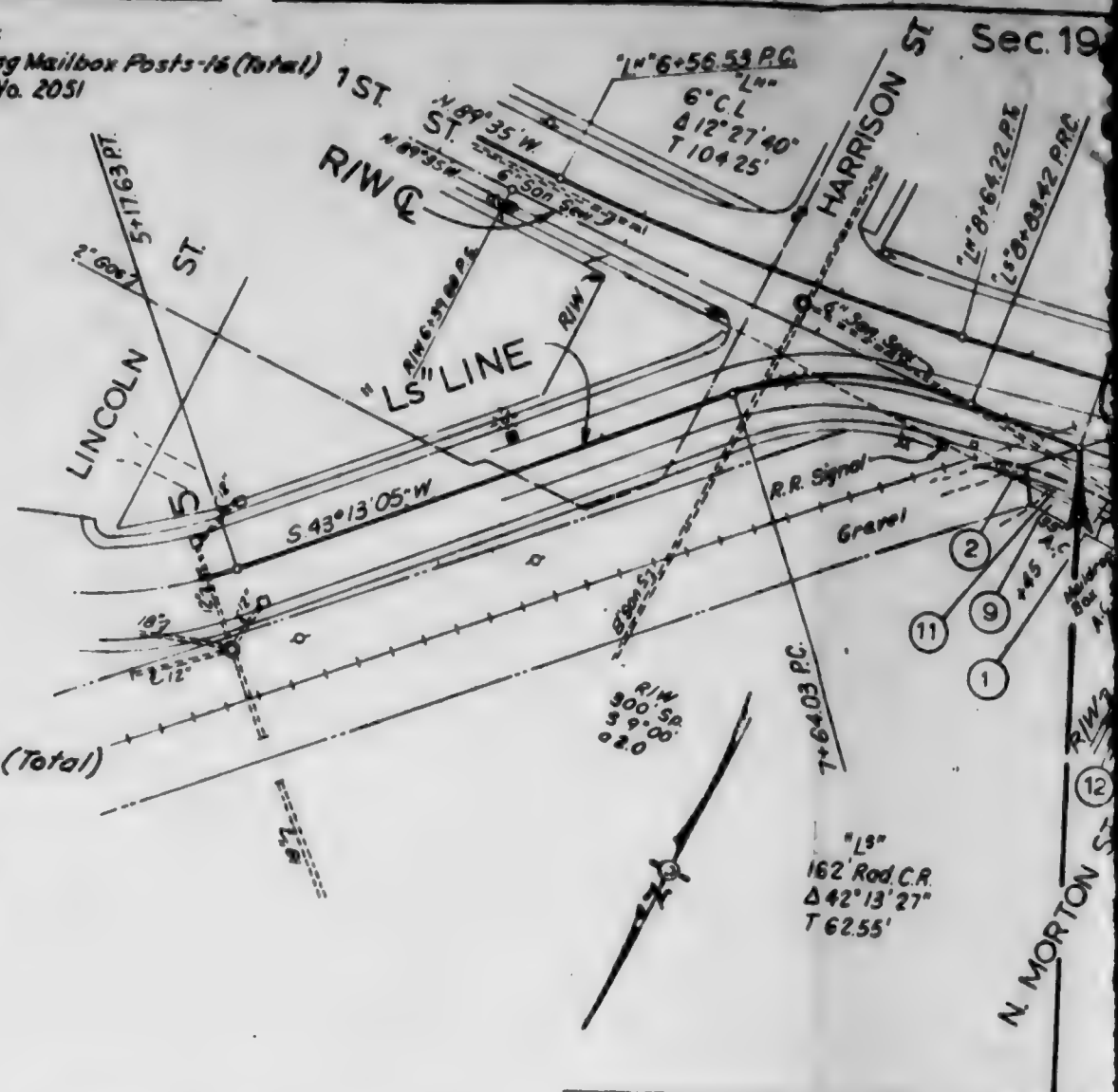
(10) Sta. "L" 12+75 To Sta. "L" 18+60
Const. Type "CG-1" Inlets - 2 (Total)
Inst. 12" Sewer Pipe - 580' (Total)
Tr. Exc. 139 C.Y.

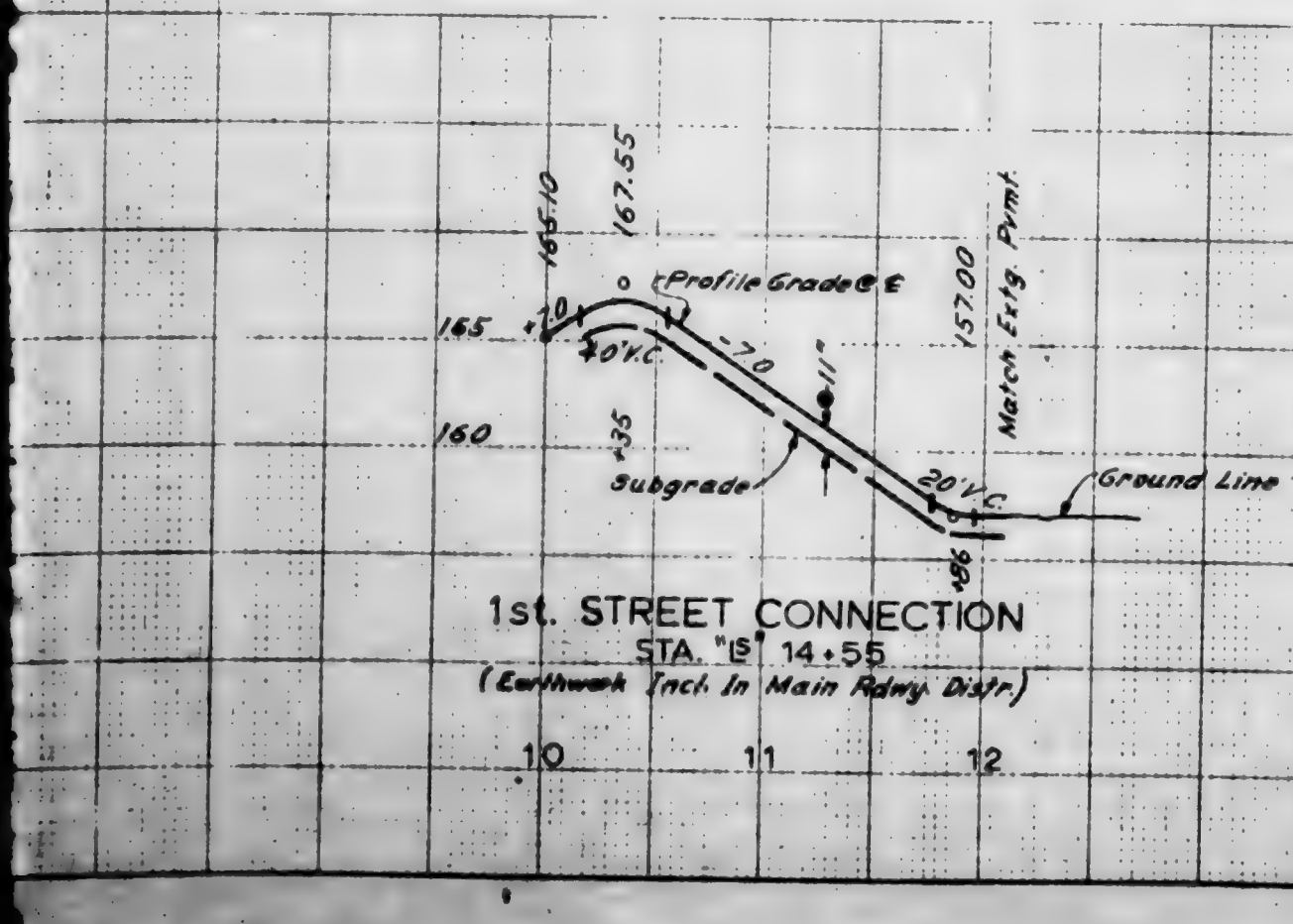
(11) Remove Curb

(12) Remove Walk

(13) Painted Traffic Markers (By Others)

(15) Remove R.R. Signal & Drop Arms
Inst. Cantilever Signal Standard
And Drop Arm (By Others)



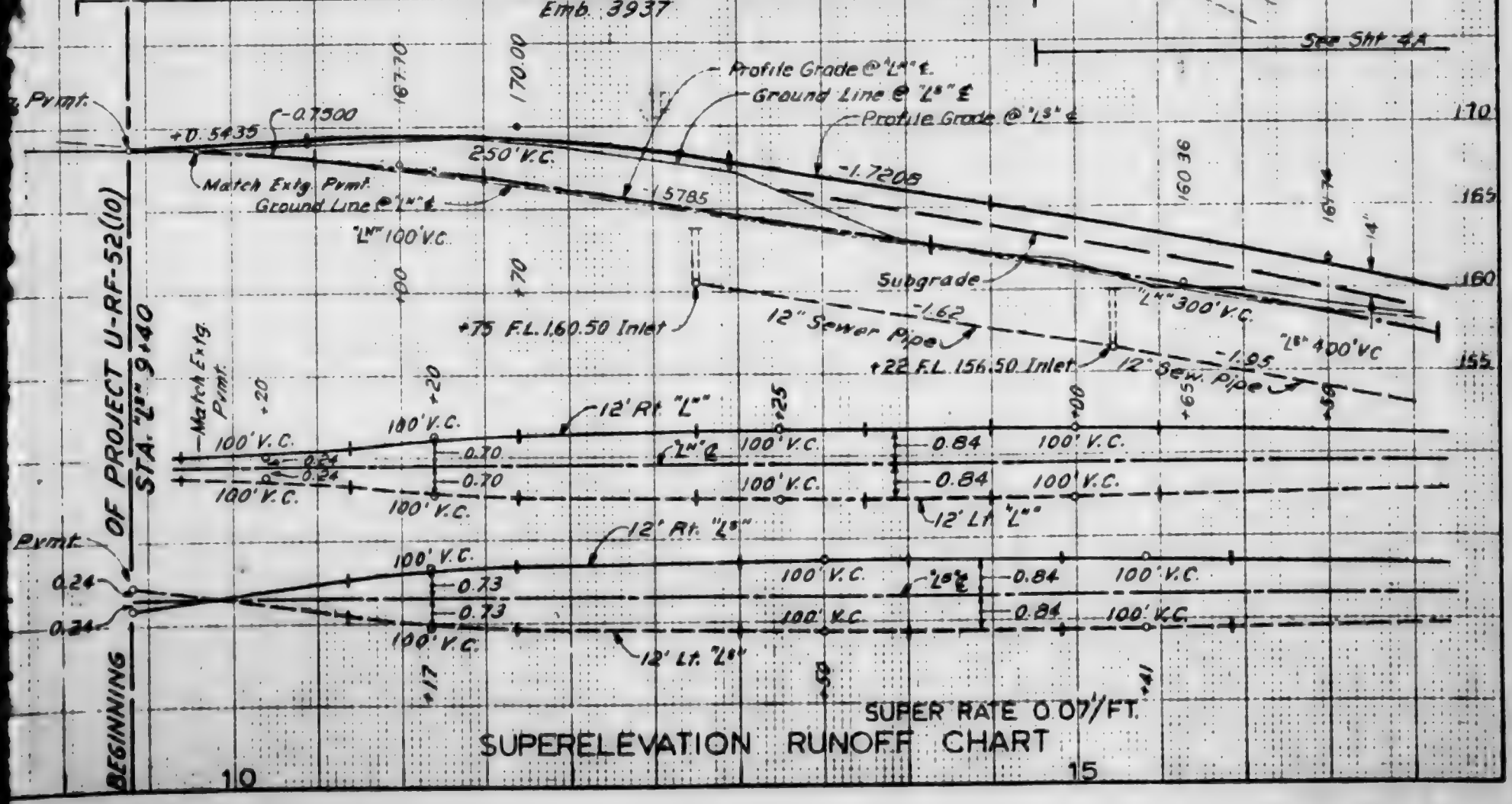


12V-118

Sec. 19, T.3S., R.2W., W.M.

CHEHALEM CR. (NEWBERG) SECTION PACIFIC HIGHWAY WEST YAMHILL COUNTY				SHEET No. 3
FED ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS See Index
10	OREGON	U-RF-52(10)		

N. MORTON ST.
W. 1ST. STREET
OLD HIGHWAY
Southern Pacific Trans. Co R.R.
R.R. R/W
R.R. Signal
Access Control Line
Mailbox
Gravel
6" Water
8" Water
"LN" LINE
"LS" 6° C.L. Δ 13°05'21" 109.56'
"LN" 4° C.L. Δ 7°37'32" T 95.46'
"LN" 9+50.00 P.C. 6° C.L. Δ 6°27'52" T 83.93'
"LS" 4° 21.776' C.L. Δ 16°53'17" T 194.95'
R/W 4° 21.776' C.L. Δ 21°30'47"
"LN" 4°30' C.L. Δ 17°41'43" T 198.19'
"LS" 3°53483' C.L. Δ 2°01'33" T 26.03'
"LS" & R/W 3° C.L. Δ 8°38'21" T 144.26'
"LS" 10+45 P.O.C. St Conn 10+00 P.O.T.
"LS" 14+55.00 POC St Conn 10+00 POT.
"LN" 15+33.87 P.C.S.
"LS" 11+53.63 PCC
"LS" 11+01.57 PCC
"LN" 11+40.64 PCC
"LN" 8+84.22 PC
"LS" 8+83.42 PRC
"LN" 15+40.71 P.C.C.
"CG-1"
"CG-1"
10" Rev
12" Sewer Pipe
Sp 6c9.240'
S 7°12'
Δ 1.25
36'
12" X 38'
55' R.
50'
40'
3' Water
8" Water
R/W
Borrow Exc. 4931
Exc. 187
Emb. 3937
See Sht 4A
OF PROJECT U-RF-52(10)
STA. "LS" 9+40
BEGINNING



SUPERELEVATION RUNOFF CHART

PETER KIEWIT SONS' CO.

CONTRACTORS

ESTABLISHED 1884

One Thousand Kiewit Plaza
Omaha, Nebraska 68131

July 24, 1975

Routing: Kinney, Bond, Jackmond, Harwood, Johnsen, Walker, Richards, Glenn, Berg

RECEIVED
JUL 28 1975
CONSTRUCTION SECTION

State of Oregon
Treasury Department
103 State Capitol Building
Salem, Oregon 97310

Attention: Emily Rohde

This will confirm my telephone call regarding the disposition of the $250,000 par value U. S. Treasury Bonds 3½%, due 11/15/80, presently deposited in lieu of retainage on State Highway contract no. 7857 (safekeeping receipt no. 1547).

It is anticipated that these securities will be released within the near future. As soon as you receive such authorization, will you please transfer the bonds to the following State Highway contracts that have been recently awarded to our firm:

Contract no. 8234 - $130,000 par value
Contract no. 8250 - 120,000 par value

Your cooperation and assistance are sincerely appreciated.

Very truly yours,

PETER KIEWIT SONS' CO.

Donald E. Baker
Treasurer

DEB:PC

cc: Construction Engineer
State Highway Division
State Highway Building
Salem, OR 97310

Resident Engineer
OSHD Contract 8234
P.O. Box 850
LaGrande, OR 97850

Resident Engineer
OSHD Contract 8250
P.O. Box 30
Salem, OR 97310

Peter Kiewit Sons' Co., Vancouver, WA

cy to Cecil Head
WR

8250 Chehalem Cr (Newberg) Sec. 1975
Pac. Hwy. W in Newberg
(Grad., pave, struc. & signing) #1

C/A 5285 8-4-75
5-5-75

8250

R

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

DATE June 18, 1975

TO Oregon ~~State Highway~~ Transportation Commission

FROM F. B. Klaboe
State Highway Engineer

SUBJECT **Footpaths and Bicycle Trails**
June 5, 12, 19 and 26 Bid Lettings

Bids were taken June 5, 12, 19 and 26 on the following projects. This is an informational report to document the Highway Division's action taken with regard to establishing footpaths and bicycle trails on those projects as set forth in Oregon Laws 1971, Chapter 366.

June 5 Bid Letting:

1. **Pacific Highway East U'Xing-N. Columbia Boulevard**
   Pacific Highway, Multnomah County

   Grade, Pave, Sign and Illumination Project

   Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout the section.

2. **Rowena-The Dalles**
   Columbia River Highway, Wasco County

   Grade, Pave, Sign and Illumination Project

   Same as No. 1.

3. **Hilgard-LaGrande**
   Old Oregon Trail Highway, Union County

   Grade, Pave and Sign Project

   Same as No. 1.

4. McVay Highway at Pacific Highway O'Xing
McVay Highway, Lane County

Signal Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

5. Oregon Coast Highway at W. Devils Lake Road
Oregon Coast Highway, Lincoln County

Grade and Pave Project

Bicycle trails will not be included as the project consists of minor grading and surfacing to obtain a left-turn refuge. Four-foot shoulders will be provided throughout the project.

6. N. W. Elks Drive-N. W. Conifer Boulevard (Corvallis)
Pacific Highway West, Benton County

Grade and Pave Project

Same as No. 1, except that 6-foot shoulders will be provided.

7. Poormans Creek Bridge
Jacksonville Highway, Jackson County

Grade, Pave and Structure Project

Same as No. 1, except that 4-foot shoulders will be provided.

June 12 Bid Letting:

1. W. Marquam Interchange-N. Tigard Interchange
Pacific Highway, Multnomah County

Grade, Pave, Sign and Illumination Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout the project.

2. S. W. Clay Street-S. W. Sheridan Street
Pacific Highway West, Multnomah County

Roadside Improvement Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

3. Link River-Bisbee Street
Klamath Falls-Lakeview Highway, Klamath County

Paving Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Five-foot sidewalks exist.

4. Smith Point (Astoria)
Oregon Coast Highway, Clatsop County

Roadside Improvement Project

Same as No. 2.

5. Interstate Avenue Grade Separation
Pacific Highway West, Multnomah County

Guardrail Project

Same as No. 2.

June 19 Bid Letting:

1. Bellevue Street S. E.-Mission Street S. E. (Salem)
FAUS 1555, Marion County

Grade, Pave, Structure and Illumination Project

An 8-foot Class II bikeway will be provided.

2. Chehalem Creek (Newberg)
Pacific Highway West, Yamhill County

Grade, Pave and Structure Project

Five-foot sidewalks will be provided.

3. Sharps Corner-Diagonal Road
Columbia River Highway, Umatilla County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Four-foot shoulders will be provided.

4. Jordan Valley-Jordan Creek
I.O.N. Highway, Malheur County

Grade and Pave Project

Same as No. 3.

5. Hogback Summit-Lake Abert
Lakeview-Burns Highway, Lake County

Grade and Pave Project

Same as No. 3.

6. S. Fork Big Butte Creek (Butte Falls) Bridge
FAS 15-101, Jackson County

Structure Project

Same as No. 3.

7. Middle Fork Malheur River (Acton Bridge)
FAS 458, Harney County

Grade, Base and Structure Project

Same as No. 3, except that 2-foot shoulders will be provided.

8. McMinnville-Willamina-Sheridan Area Safety Projects
Pacific Highway West and Salmon River Highway
Polk and Yamhill Counties

Attenuators, Guardrail and Sign Projects

Footpaths or bicycle trails are not incorporated

in this project as no new highway construction, reconstruction or relocation is involved.

9. Simpson Creek
Corvallis-Newport Highway, Lincoln County

Grade, Pave and Culvert Project

Same as No. 3.

10. Daisy Street-SPRR (Springfield)
Springfield-Creswell Highway, Lane County

Grade and Pave Project

An 8-foot, Class I or Class II bikeway will be provided.

11. Aumsville (N. Fifth Street)
City Street, Marion County

Grade and Pave Project

Four-foot sidewalks will be provided.

June 26 Bid Letting:

1. Winchester Interchange-Garden Valley Boulevard
Pacific Highway, Douglas County

Grade, Pave and Sign Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout this section.

2. Motorist Service Signing Project, S. Unit
Pacific Highway, 3 Counties

Signing Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

3. Motorist Service Signing Project, N. Unit
Pacific Highway, 6 Counties

Signing Project

Same as No. 2.

4. Motorist Service Signing Project
Columbia River Highway, 9 Counties

Signing Project

Same as No. 2.

5. N. E. Union Avenue-N. E. 82nd Avenue
Columbia River Highway, Multnomah County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout this section.

6. S. W. 72nd Avenue Interchange-S. W. Boones Ferry Road
Beaverton-Tigard, Pacific and FAS 943 Highways
Washington and Clackamas Counties

Grade and Pave Project

An 8-foot Class I bikeway will be provided.

7. Five Corners-Lakeview and Hunters Lodge Road-Lakeview
Klamath Falls-Lakeview and Fremont Highways, Lake County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders or 5-foot sidewalks in curbed areas are available.

8. Lyons (14th and 15th Streets)
City Street, Linn County

Paving Project

Same as No. 1, except that two 12-foot paved travel lanes and 6-foot gravel shoulders will be provided.

9. Veneta (Second Street)
City Street, Lane County

Grade and Pave Project

Same as No. 1, except that 8-foot shoulders will be provided.

10. Detroit (D and Patton Streets)
City Streets, Marion County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders will be provided.

11. Rooster Rock State Park
Multnomah County

Beach Restoration and Erosion Control Project

Same as No. 2.

bc C. W. Head
G. M. Baldwin
A. E. Johnson
E. S. Hunter
R. L. Schroeder
D. G. Talbot
L. E. George
Victor D. Wolfe
Gary Sund
Jack Graham

WHW:mc ja

1250

R

~~PLA 14-1~~

June 16, 1975

Mr. Glen Green
Division Engineer
Federal Highway Administration
P. O. Box 300
Salem, OR 97308

Attention Mr. H. A. Schell

Dear Mr. Schell:

SBR Funds
Structure Eligibility

We request that the following structure projects be made eligible for financing with Special Bridge Replacement Funds:

Project	Est. Total Cost	Federal Funds
Chehalem Creek Bridge	$2,650,000	$1,987,000
Yachats River Bridge	600,000	450,000
Bear Creek Bridge (Wallowa Co.)	150,000	112,500

Chehalem Creek Bridge is a wooden, two-lane, trestle type composite structure in an urban area with an increasing traffic count. The condition of the bridge is poor and requires constant maintenance. Replacement with a four-lane structure will serve the dual purpose of replacing an aging and curved bridge with a new, safer structure plus eliminating the only two-lane bottleneck on the Pacific Highway West between Portland and Dundee. Replacement of this structure is of prime concern and we are presently advertising a construction project to accomplish this. The condition of the structure is such that if we are unable to obtain SBR funds for this work, we will be forced to use other funding.

A recent bridge inspection report for the Yachats River Bridge indicates that the roller bearings are completely rusted solid, the steel stringers and

longitudinal floor beams show up to 30 percent section loss from rusting in some areas, 100 percent loss of individual lacing pieces on end posts and vertical posts from corrosion, webs of north end posts nearly rusted through, heavy rusting on vertical and diagonal members, many rivet heads lost from rusting and damage to members by truck traffic. The concrete deck shows heavy wear with rebar exposed in several areas. This is a narrow 20-foot wide structure on poor alignment. The inspection report states, "Due to seriousness of conditions of truss, narrowness and other substandard features, this bridge should be immediately replaced." (See attached.) If we are unable to obtain SBR funds for replacement, an expenditure of approximately $35,000 in maintenance funds will be required for repair and painting. The timber caps, stringers and deck on the approach spans were replaced in 1956 and will need replacement again soon.

Although Bear Creek Bridge has a sufficiency rating of 36.3, it is on the FASC system and is thus a county project. There has been a problem with match money financing but we believe this has been solved and that the project can proceed.

Your approval of these structures for Special Bridge Replacement Funding is requested.

Very truly yours,

E. S. Hunter
Assistant State Highway Engineer

Attachment

cc L. W. Rullen/w/ attach.
V. E. Skoog /w/ attach.
Walter J. Hart /w/ attach.

Form FHWA 121 (Rev. 5-73)

8250

UNITED STATES GOVERNMENT

Memorandum

R

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: June 10, 1975

In reply refer to: 1041EC.3

SUBJECT: Oregon Project U-RF-52(10)
Chehalem Creek (Newberg) Section
Exception to Noise Standards

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Based on information in the Final Negative Declaration and Mr. Rulien's request of June 4 the exception to Noise Standards as set forth in PPM 90-2, Appendix B is approved.

William H. Kappus
for G. L. Green

cc:
OSHD (Potter)
OSHD (Laux)

NOTED
E. S. HUNTER
cc Rulien
6-11-75

RECEIVED
JUN 11 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

RECEIVED
ASST ENGR
JUN 11 '75
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Ar | File

1W

OREGON STATE HIGHWAY DIVISION

PRO 6-2

Robert W. Straub
GOVERNOR

F. B. KLABOE
Administrator of Highways

June 4, 1975

TO G. L. Green, Division Engineer
Federal Highway Administration

FROM for L. W. Rulien
Project Management Engineer

SUBJECT Exception to Noise Standards
Project No. U-RF-52(10)
Chehalem Creek (Newberg) Section

We request, for the subject project, your approval for exception to noise standards as set forth in PPM 90-2, Appendix B, based on the fact that the projected increase in sound level after construction will be barely perceptible to the human ear and it would be impractical to apply noise abatement measures to not exceed FHWA standard of 70 dBA for residential areas on this section.

This opinion is stated in the Negative Declaration which received FHWA concurrence.

JG:bb

cc: J. H. Versteeg
Gary Potter
C. O. Fredrickson
D. E. Swan

1 Versteeg V
2 A. Olson
3 Taylor
Scott
Swenson
R. Olson
Trout

RECEIVED
JUN - 5 1975
ROAD DESIGN

Bring Up
Other

Form 81-734-3122

#12250

1W

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

June 3, 1975

FILE: BR 2054A

FROM: Jack L. Davis
Foundation Engineer

TO:

Mr. C. O. Fredrickson
Regional Engineer

SUBJECT:

Foundation Core and Drive Samples
Section: W. Newberg-Chehalem Cr.
Highway: Pacific 99W
County: Yamhill

Forwarded to the Regional Geologist by separate carrier are foundation core samples and split tube samples for structures as listed below.

Samples should be forwarded to the Resident Engineer in charge of the project for inspection of the Resident Engineer and by prospective bidders on the project. Samples should then be retained under the control of the Division Engineer until the legal claim period for the contract has expired after completion of the project, at which time the samples may be disposed of. Please return empty core boxes to the Bridge Section Foundation Unit.

Birdge No.	Name	Boxes Drive Samples (No. Jars)	Boxes Core Samples
2054A	Chehalem Creek Br. (Test Holes 4 and 5)	2 (21)	

Forwarded: 6-4-75 (Date) To Bill Fretwell By Hand Carrier

JLD: dh

cc Walter J. Hart
J. H. Versteeg
Resident Engineer
Region Geologist
Ed Payton
Bill Fretwell

2 T
1 cc

Transaction Numbers 6-24 and 6-25

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS

(PPM 21-1)

STATE HIGHWAY DEPARTMENT: Oregon

DATE: 5-28-75

BY (Signature): L. W. Rulien's May 23, 1975 letter

TITLE: Project Management Engineer

CLASS OF FEDERAL FUNDS: ☐ FAI ☒ FAP ☐ FAU ☐ FAS ☐ OTHERS

STAGE 1 * ITEM NOS. _____ THRU _____

STAGE 2 ITEM NOS. U-192 & THRU RF-53

ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS
192	U-RF-52(10)	0.31	1,710,500	1,337,400
53	RF-U-52(10)	0.31	1,524,500	1,192,000
		(0.62)	(3,235,000)	(2,529,400)

OTHER IDENTIFICATION AND/OR REMARKS (State)

NOTED
E. S. HUNTER

Location	Work
Chehalem Creek (Newberg) Section - Yamhill County - State of Oregon	Grade, Drain, High Type Pavement One Structure and Landscape
"	"

RECEIVED
STATE HWY ENGR
"
MAY 30 '75
REFER TO
FOR
(Init.) INVL. R/D D/R SURV. ALL.

REMARKS (Division)

You are authorized to proceed with utility and railroad preparatory work.

6-2-75
ORIGINAL TO
L.W. Rulien

RECEIVED
JUN 2 1975
OFFICE OF

RECOMMENDED		APPROVED	
DATE	SIGNATURE AND TITLE	DATE	SIGNATURE AND TITLE
		5-28-75	C. I. Crooks, Division Engineer

* Program approval and any authorization to proceed with a Stage 1 project shall not constitute any commitment of Federal funds nor shall it be construed as creating in any manner, any obligation on the part of the Federal Government to provide Federal funds for the undertaking.

FORM PR-43
(Rev. 8-71)

GPO 915.690

5-28-75

2588

8250

Form FHWA 121 (Rev. 5-73)

R

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: May 28, 1975

In reply refer to: 1041EC.2

SUBJECT: Oregon Project U-RF-52(11)
Chehalem Creek (Newberg) Section
Mandatory Borrow Source

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Based on the information furnished with Mr. Terpin's May 22 letter we concur that it would be in the public interest to designate a mandatory borrow source for the subject project.

NOTED
E. S. HUNTER

for G. L. Green

cc:
O SHD (Rulien)
OSHD (Terpin)

RECEIVED
STATE HWY ENGR
JUN 10 '75
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Art | Ltr

RECEIVED
JUN 11 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

8250 5-28-75

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO. U-[illegible]-52(10)

STATE PROJECT NO. Chehalem Creek (Newberg) Section

COUNTY NAME Yamhill

PROGRAM NO.

ITEM NO. U-192 & RF-53

PROGRAM STAGE (Check) [ ] 1. [X] 2.

FROM:
G. L. Green, Division Engineer
Salem, Oregon

TO:
Mr. F. B. Klaboe
Administrator & State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENG.
JUL 7'75
RETURN TO
FOR
Info | Inves | R/D | D.R | Sign | Act | File

DATE PS&E APPROVED: May 28, 1975

DATE AUTHORIZATION EFFECTIVE: May 28, 1975

FEDERAL ROUTE NUMBER: Primary Route 9

STATE ROUTE NUMBER: Primary Route 1W

NOTED
E. S. HUNTER

GENERAL LOCATION:
City of Newberg

GENERAL DESCRIPTION OF WORK:
Grade, drain, pave, one structure and landscape

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

PRELIMINARY ENGINEERING TO DETERMINE
[ ] LOCATION ONLY
PRELIMINARY ENGINEERING FOR SURVEY AND PLAN
[ ] PREPARATION

[X] OTHER (Specify)

Railroad Protective Services	$1,900
Permanent Pavement Striping	200
Stage Construction Striping	200
Temporary Erosion Control	2,500
On the Job Training	2,400

[ ] ACQUISITION OF RIGHT-OF-WAY
CONSTRUCTION - ADVERTISE FOR RECEIPT
[X] OF BIDS
[ ] CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

After concurrence in award you are authorized to proceed with those items listed above as shown in your Estimate.

Mr. Rulien's May 23, 1975 request and certifying statements are accepted.

PS&E documents for the subject project have been reviewed and are approved.

A signed Title Sheet is returned herewith.

7-7-75
ORIGINAL TO
L.W. Rulien
Watt

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
5-28-75	for D.K. Hassmer	Division Engineer

FORM PR-1240 (REV. 8-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

FINAL NEGATIVE DECLARATION

Chehalem Creek (Newberg) Section
Pacific Highway West (99-W)
Yamhill County, Oregon

The final negative declaration for the above Federal-aid project has been prepared in consultation with the Federal Highway Administration pursuant to regulations in the Federal-Aid Highway Program Manual, volume 7, chapter 7, section 2.

LOCATION AND DESCRIPTION OF PROJECT

The Chehalem Creek (Newberg) section project is located on Pacific Highway West (99-W) in Yamhill County, Oregon. This 3260 foot section extends from the southwest terminus of the Newberg couplet to the northerly end of the four-lane highway section between Newberg and Dundee (see Figure 1).

The project entails construction of a section containing four travel lanes, paved shoulders with curbing, bikeway (to use 8' shoulders) and pedestrian walkway (5') along both sides, with varying median and left-turn refuges. Included in the project is a bridge structure 820 feet long by 82 feet wide (nominal outside width), crossing the Chehalem Creek valley at the confluence of Chehalem and Harvey Creeks. The structure would be supported by six sets of double columns six feet in diameter set a approximately 117 foot intervals. Columns would be set on footings placed below the surface with pilings, would be placed in the Chehalem Creek bed, with one placed in Harvey Creek; the rest to be placed in the flood plain.

The alignment is to be generally shifted to the west and northwest throughout the section (to 65 feet north of the existing bridge, a maximum of 100 feet paralleling the new bridge; and up to 60 feet in the segment south of the structure). Expansion from a two-lane to a four-lane facility shifts the westerly edge of the pavement--up to 85 feet in the northerly segment, a maximum

of 115 feet on the bridge structure, and up to 80 feet in the southerly portion. This alignment shift and expansion require acquisition of additional right-of-way. Approximately 5.47 acres have already been acquired, and an additional 1.1 acre is in the process of being acquired, for a total of 6.57 acres of residential property. Some of the acreage in the Chehalem Creek Valley which was purchased when a different stream crossing was envisioned (see "Alternatives to the Proposal-Alternative B") is in excess of the present project needs and may be sold, thus reducing the total right-of-way "required" by the project.

Right-of-way acquisition originated in the early 1960's. No more than 6 houses and 3 office buildings have been displaced by the project, and at least one travel trailer remains to be moved (compensation having already been paid the property owner). No new displacements are anticipated.

Some access control is envisioned for the project. Sunnycrest Road (west First Street) would be realigned to intersect this section at a right angle. Access along the westerly side of the project segment north of the bridge would be controlled, channeling all access by way of Sunnycrest Road. A local street immediately south of the bridge on the westerly side would be realigned to intersect the highway at a right angle and to reduce the number of intersecting streets at this location from two to one.

Approximately 17,000 tons of paving and construction materials would be obtained for this project from local commercial sources. The development plan for a mandatory borrow source for approximately 7,000 yards of additional fill material is being developed. Borrow will not be taken from the property owned by the Highway Division at the project site. The old bridge structure and highway would be removed by the contractor.

Estimated cost of constructing the new Chehalem Creek bridge and associated segments of four-lane highway is approximately $3 million.

PURPOSE OF PROJECT

Pacific Highway West (99-W) represents the primary link between McMinnville (Yamhill County Seat) and surrounding communities within the Portland area. Furthermore, this section of 99-W lies within one of the three major routes available to Portland-area residents seeking access to the coast (U.S. Highway 26 to the northwest, State Highway 6 to the west, and U.S. Highway 99-W connecting with State Highway 18 to the southwest). In 1974 an ADT of 11,300 vehicles was recorded (with summer peaks as high as 15,200 vehicles per day) and is projected to increase to 19,400 vehicles (ADT) by 1996. With the recent construction of the Newberg couplet, Highway 99-W is a continuous four-lane facility from Portland to just short of the southwesterly city limits of Newberg. From Newberg to McMinnville, however, the number of lanes varies from 2 to 4.

The Chehalem Creek Bridge section project is to connect the Newberg couplet with the southerly four-lane section with a comparable four-lane highway. The existing Chehalem Creek Bridge (circa 1935) is showing signs of age and is not expected to be serviceable for more than 5 years. Furthermore, the bridge is narrow and represents a potential traffic safety hazard, particularly in freezing weather conditions. This project would serve the dual purpose of replacing an older curved structure with a new, safer, slightly curved bridge, while relieving the traffic restrictions which presently exist, by completing the four-lane section into Newberg.

ALTERNATIVES TO THE PROPOSAL

Other than the "no-build" option, two general approaches were considered for the Chehalem Creek crossing.

Originally proposed in 1961 as exclusively a State project, the Chehalem Creek crossing was to include channel changes in both Chehalem Creek and Harvey Creek, with at least partial filling of the Chehalem Creek Valley:

A. One version of this design approach called for a partial fill approximately 500 feet across the creek valley with a 300-foot bridge structure across the rechanneled streambed.

B. The second alternative in this category called for fill across the entire width of the stream valley (approximately 800 feet); rechannelization of the Chehalem Creek through two "superspans" (or other culvert arrangement); and construction of roadway across the fill.

Geological problems relating to inadequate foundation support, and subsequent settling of the fill and superspans, haveprecluded these alternatives.

The second general approach to the Chehalem Creek crossing would entail construction of a structure from bank to bank across the stream valley, with no change in stream channels.

C. One alternative called for construction of a two-lane structure for southbound traffic and repair and maintenance of the old bridge for northbound traffic. The current (five-year) life expectancy for the existing structure shows this alternative to be of low desirability.

D. The final alternative, and the one presently being considered, calls for construction of a new four-lane structure on alignment shifted to the west of the existing structure, and connecting the Newberg couplet and the existing four-lane highway to the south with four-lane segments.

The "no-build" alternative would mean that the present highway would remain--with a four-lane facility from Portland south into Newberg, which narrows to a two-lane facility within the Newberg city limits. The termination of the outside southbound couplet lane at the junction with Sunnycrest Road confuses

users not familiar with this section. Traffic "back-up" into Newberg is a serious traffic congestion problem. Furthermore, the existing, aging, curved bridge structure is in need of early replacement.

EXISTING ENVIRONMENTAL SETTING

The northerly segment of the project area, starting at the southwest end of the Newberg couplet, within the city limits of Newberg, runs through a short developed segment (approximately 1,400 feet). Along the northwesterly side of this segment, zoning is "urban residential," and along the southeasterly side, zoning is "light commercial," according to the 1985 Comprehensive Plan, Newberg, Oregon, a document which is relatively consistent with present, developed land use along this segment. Prior to the beginning of right-of-way acquisition for the Chehalem Creek section project, usage along the westerly side of this segment was mised residential and light industry, but remaining usage is almost entirely residential; there are individual houses (one with an incorporated business) and one trailer court.

The bridge segment spans the Chehalem Creek valley at the confluence of Harvey Creek with Chehalem Creek.

The vegetation of the Chehalem Creek valley in the study area is basically riparian in nature, but is no longer typical of naturally occurring riparian communities of northwestern Oregon. It appears that at some time in the past the land was partially cleared, allowing the invasion and subsequent domination of a species which was intolerant of the shaded conditions characteristic of riparian stands.

There are scattered remnants of the preceding stand; these are predominantly old bigleaf maple with lesser amounts of mature Douglas fir and western red cedar. These stands range between 50 and 80 feet; they are largely confined to the bank zone of Harvey Creek and to the steepest slopes of Chehalem Creek. Where these trees produce enough shade to limit the advance of Himalaya berry, thickets of red alder and bigleaf maple saplings 5 to 15 feet in height form the middle story.

The majority of the land in the study area is dominated by Himalaya berry. This dense shrub growth has suppressed the growth of other species to a great extent and shows signs of further invasion of the few remaining open grassy areas.

The stands of Himalaya berry can be expected to completely take over existing open areas in the future, while at a much slower pace the woodland stands will gradually shade out and destroy the adjacent Himalaya berry. Eventually, the entire main valley will return to woodlands; the existence of Himalaya berry has merely served to lengthen the process.

Two parcels of land are nearly devoid of vegetation. These are the abandoned paved road which lies beneath the existing highway bridge and the land beneath the railroad trestle. Neither of these parcels presents a problem to wildlife movement within the riparian zone.

The riparian zone of the Chehalem Creek is a fairly continuous woodland surrounded by agricultural (grassland) and urban (mixed grassland/woodland) habitats. For this reason, its presence adds a highly desirable diversity of resources to an otherwise tedious environment.

Riparian zones in general have certain very desirable characteristics as wildlife habitat: (1) cover is dense and is often the only cover available for woodland/grassland or brush species; (2) diversity of plant species is an important source of winter-persistent foods; (3) because of their linear nature and dense cover, riparian zones are often important wildlife travel lanes; and (4) the linear nature of these stands produces a disproportionately large amount of habitat "edge" from areas of small acreage.

The study area retains many of these potentially beneficial characteristics, even though they are no longer typical, as explained above. However, little evidence was observed to indicate that wildlife use of the area is as high as might be anticipated.

Yamhill County and the city of Newberg have designated the Chehalem Creek floodplain as an "open space" corridor, according to the Yamhill County Comprehensive Plan. Under the plan, agricultural and forestry activities are permitted in this category, with permanent development discouraged, with permits required from the county.

Water quality of Chehalem Creek in this area is poor, showing high turbidity. Commercial or game fish populations are quite low and intermittent. The Oregon State Fish Commission anticipated presence of only a few cutthroat trout enroute to tributaries of Chehalem Creek in the fall and spring, and very low summer fish populations, due to the warmth and stillness of the creek. The 100-year flood elevation at the Highway 99-W crossing is estimated by the Highway Division Hydraulics Section to be 108 feet above sea level (minimum bridge elevation approximately 138 feet above sea level). Chehalem Creek, at the proposed bridge crossing, is subject to backwater from the Willamette River, thus flood velocity is low, and the creek valley is not subject to significant erosion or scour.

The southerly segment, from the bridge to the connection with the existing four-lane section, passes through an area zoned "rural residential" (Yamhill County 1985 Preliminary General Plan). This area contains one business property (a roadside tavern), and the remainder is scattered residential and farm land. Although not highly developed, the existing environment through this segment is significantly modified by human activities: there are home sites, a parking area for the tavern, and some rough cleared land. No agriculturally developed land has been affected by highway right-of-way needs for this project.

DISCUSSION OF ENVIRONMENTAL IMPACTS

Traffic Patterns and Land Use. The bulk of the traffic between Portland and McMinnville and between the Portland area and the coastal area from Pacific City to Newport will use this highway facility, improved or not.

Some slight traffic increases may be experienced as a result of improved flow, which would attract more local residents and more vacationers to the coast along this route. Land use approved under the Yamhill County Plan will allow further development of the area around the southerly segment of the project for rural residential use, which may attract Portland commuters. Increased highway efficiency derived from the Chehalem Creek section project would probably accelerate this development slightly.

Under the "no-build," or current condition, average daily traffic is 11,300 vehicles, operating at average speeds of 40 miles per hour at level of service "C." Approximately eight percent of the traffic mix is truck traffic.

The 1986 traffic projection for the "no-build" condition anticipates 15,400 vehicles utilizing the section, with a 1996 projection anticipating 19,400 vehicles. The present level of service "C" would deteriorate to level "D" or "E" (ten-year projection) and level "F" (twenty-year projection) under the expected increases in traffic volumes.

With the "build" option, there would be no significant change in the expected traffic volumes over the "no-build" condition. Average vehicle speeds would increase slightly, to 45 miles per hour, thereby bettering the level of service (from project completion through 1996) to level "A".

Some land use changes have already resulted from right-of-way acquisition. There is a total of 6.57 acres of residentially zoned land required, of which 5.47 acres have been acquired. Six houses and three businesses have been displaced. One travel trailer remains to be relocated. Acquisition of land in the project area has resulted in land use that is more consistent with land use plans than was previously true. Due to changes in design, some of the land already acquired by the Highway Division is in excess of present project needs and may be sold, thus reducing the total amount "required" by the project.

Net traffic effects should be improved safety and flow of traffic on 99-W in the Newberg area.

Chehalem Creek Valley. When Chehalem and Harvey Creeks are disturbed for cofferdam construction or diversion around in-stream pile driving and footing construction, water quality will be temporarily worsened, primarily through increased turbidity, although presently these creeks are very turbid. Post-construction water quality will be relatively unchanged.

Further disruption of the stream and stream valley would occur during construction as results of the following activities: access road construction and utilization and operation of construction, pile-driving, and demolition equipment in the stream valley. However, these activities are to be conducted so as to minimize environmental disruption. Operation of equipment in the streams will be held to an absolute minimum. Demolition of the old structure will be conducted in such a manner as to leave no debris nor permanent scar on the land. The old highway beneath the existing bridge and the access road into the stream valley will be removed at the termination of construction. Equipment-damaged areas in the entire stream valley will be repaired. Secondary piles driven for support of pile-driving and construction equipment would be removed. Clearing and replanting the land in the right-of-way should accelerate the return of this land to a more typical riparian community.

Air and Noise Pollution. A recent traffic data analysis showed that the subject project will enable compliance with the Oregon Clean Air Act Implementation Plan. Traffic volumes for both build and no-build alternatives are identical. The build alternative will result in increased travel speeds and thus lower emission rates of carbon monoxide and reactive hydrocarbons. A very slight initial increase in emissions of lead and nitrogen oxides is predicted. Under conditions of low wind speed and stagnant air, a potential violation of the eight-hour carbon monoxide standard would exist for either alternative. Such a violation would be expected for the area within 100 feet of the roadway centerline for the no-build alternate in 1975, and within 50 feet for the build

alternate. No violations outside the highway right-of-way are expected for either alternative after 1980.

Present noise levels, measured and estimated, exceed federal guidelines for residential areas in the vicinity of one travel trailer and three residences. Revision of the alignment is anticipated to increase noise levels somewhat in the area westerly of the section, to the north of the bridge structure. It is anticipated that noise levels will exceed federal guidelines for residential areas in the proximity of some seven homes and six trailers. The increase in noise levels is not anticipated to be more than 3 dBA L10 for any of these sites. An increase of 3 dBA, under most circumstances, is barely perceptible to the human ear.

The twenty-year traffic projections indicate that federal noise guidelines would be exceeded for seven houses and seven trailers by 1994 if the existing alignment were maintained. The net effect of shifting alignment for this project would be an increase from ambient noise levels of 3 dBA L10 for a maximum of six residences, 2 dBA L10 for a maximum of four residences, and 1 dBA L10 for one residence.

To reduce these noise levels would require construction of a sound barrier or shift of alignment easterly. Since the bulk of highway noise exceeding 70 dBA in this area is caused by trucks, and since the majority of the affected buildings are approximately at grade, a sound barrier would have to be 10 feet high or more, to be effective. Such a structure would be completely out of keeping with the essentially rural residential area adjacent to this highway section. A barely perceptible increase in noise should be much preferable.

Shifting alignment easterly sufficiently to reduce noise impact on this residential area would require northbound traffic to execute a right-angle turn across a railroad track. Northbound traffic, at this point, is just slowing down to enter the Newberg couplet, and a right-angle turn would be difficult to

negotiate. In addition, the need to cross at grade an active railroad facility would make such an alignment shift very undesirable in terms of safety.

SUMMARY AND DISPOSITION OF PUBLIC HEARING COMMENTS

The combination corridor-design public hearing on the Chehalem Creek Bridge section was held at 7:30 p.m., April 17, 1975 in Newberg, Oregon. The subject project was described to the approximately 30 people in attendance.

Eight persons testified at the hearing. Of the eight, four went on record voicing strong objections to the severance of West First Street from North Morton Street. Primary among their arguments were the following: the severance would present a difficult access problem to contiguous residences; it would pose undue business hardships for at least two property owners; and it would not alleviate any of the safety problems presently connected with the Morton Street, First Street and the Pacific Highway intersection.

Another concern was cost of the project, with the suggestion made that the Oregon State Highway Division signalize the Morton Street, First Street, Pacific Highway intersection. And another concern was the problem of higher noise levels impacting homes and mobile homes along the north side of the proposed facility.

In response to these concerns, the Oregon State Highway Division has revised the project design to eliminate the cul-de-sac and maintain the West First Street and North Morton Street connection. As revised, the connection will permit westbound traffic on the Pacific Highway (99-W) to enter West First Street, but will not permit eastbound traffic on West First to enter the Pacific Highway (see Figure 2). Access for eastbound traffic to the Pacific Highway will be provided by a proposed local street connection to be constructed just south of the present Morton, First Streets and Pacific Highway intersection.*

*Eastbound traffic on W. First Street will be able to enter N. Morton Steet.

The intent is to maintain westbound access from the Pacific Highway onto West First Street, while eliminating a difficult turning movement at a dangerous intersection. Preliminary review also indicates that a traffic signal at this intersection is unwarranted, in view of the undue delay it would cause through traffic. It was further suggested at the hearing that the Oregon State Highway Division landscape the section, which would impact neighboring homes, with a type of shrub that would provide an acoustical as well as visual barrier. Such a solution, if feasible, will be worked out with the city of Newberg and/or the Chehalem Park and Recreation District.

Approximately eight written comments were received following the hearing, and are included in the hearing transcript. Of these, five favored the proposal (including the severance of First and Morton Streets), two opposed it, and one business owner voiced concern over right-of-way requirements and access to his establishment. Additionally, a petition was submitted, with 107 signatures, in opposition to the Morton-First Street closure.

BASIS FOR NEGATIVE DECLARATION

The Oregon State Highway Division has found that the proposed project, including the replacement of the Chehalem Creek Bridge, is necessary for travel safety and adequate flow of traffic through the community of Newberg. Disruption caused by construction and demolition would be temporary, and the natural environment would be returned to a state at least comparable to the existing condition. Effects on land use are anticipated to be slight at most.

Although increased noise levels are anticipated for a number of residences as a result of the project, potential mitigating procedures (such as construction of a sound barrier or realignment to the east) would be anticipated to have far greater deterimental impact on the human environment than would the increase in noise levels by a maximum of 3 dBA. The other alternative for preventing this noise increase would be the "no-build" option. This would leave

the problems of traffic back-up in Newberg and the poor safety features of the old-curved bridge which now exists. Thus, an exception to the noise standards will be requested.

It is the conclusion of the Oregon State Highway Division that this project constitutes a "major" action as defined in the Federal-Aid Highway Program Manual, volume 7, chapter 7, section 2, and the implementing the proposed action will not have a significant impact upon the quality of the human environment of a magnitude to require processing of an environmental impact statement.

GSW:ss
5-27-75

Concurred in by:

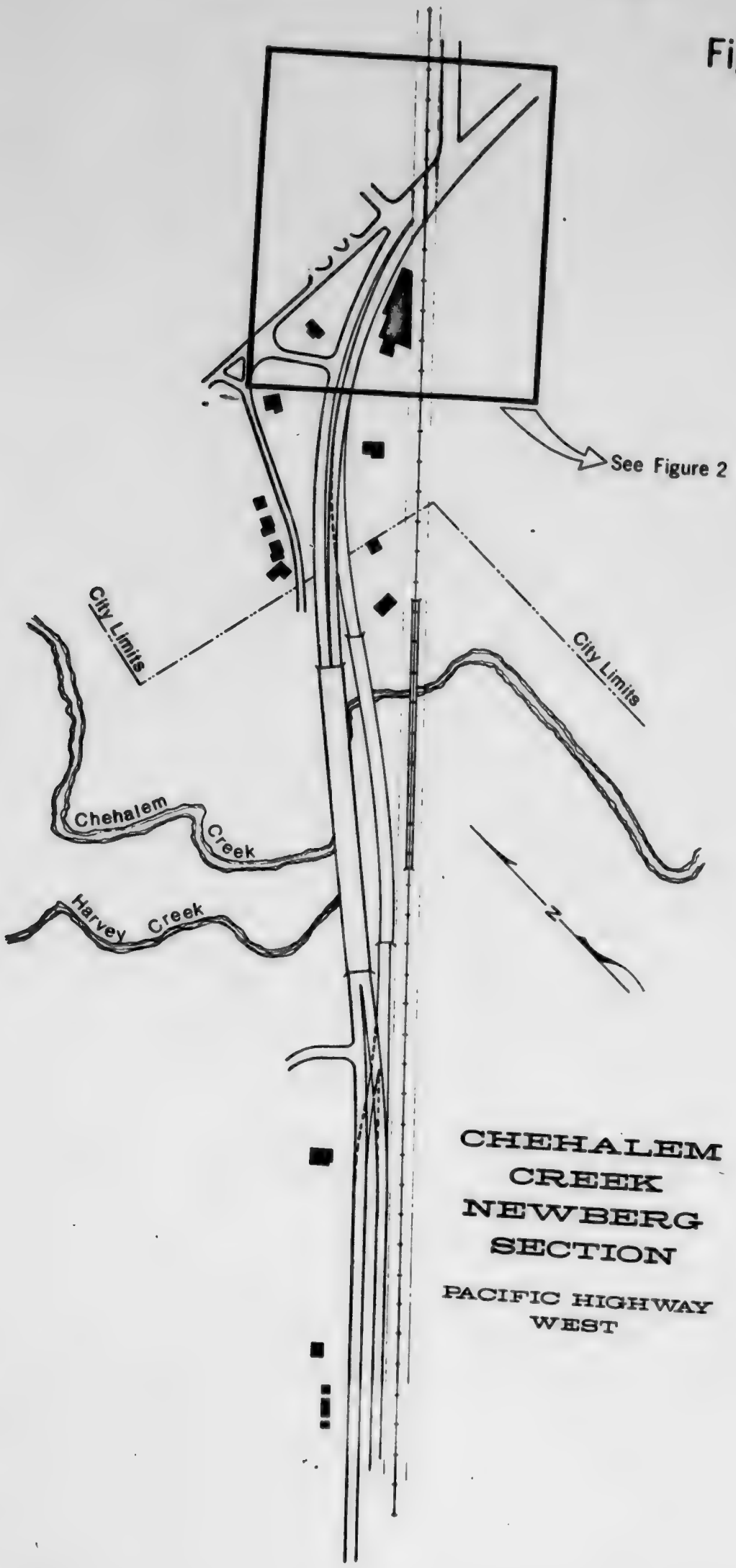
5/28/75
Date

Assistant State Highway Engineer

5/28/75
Date

FHWA Division Engineer

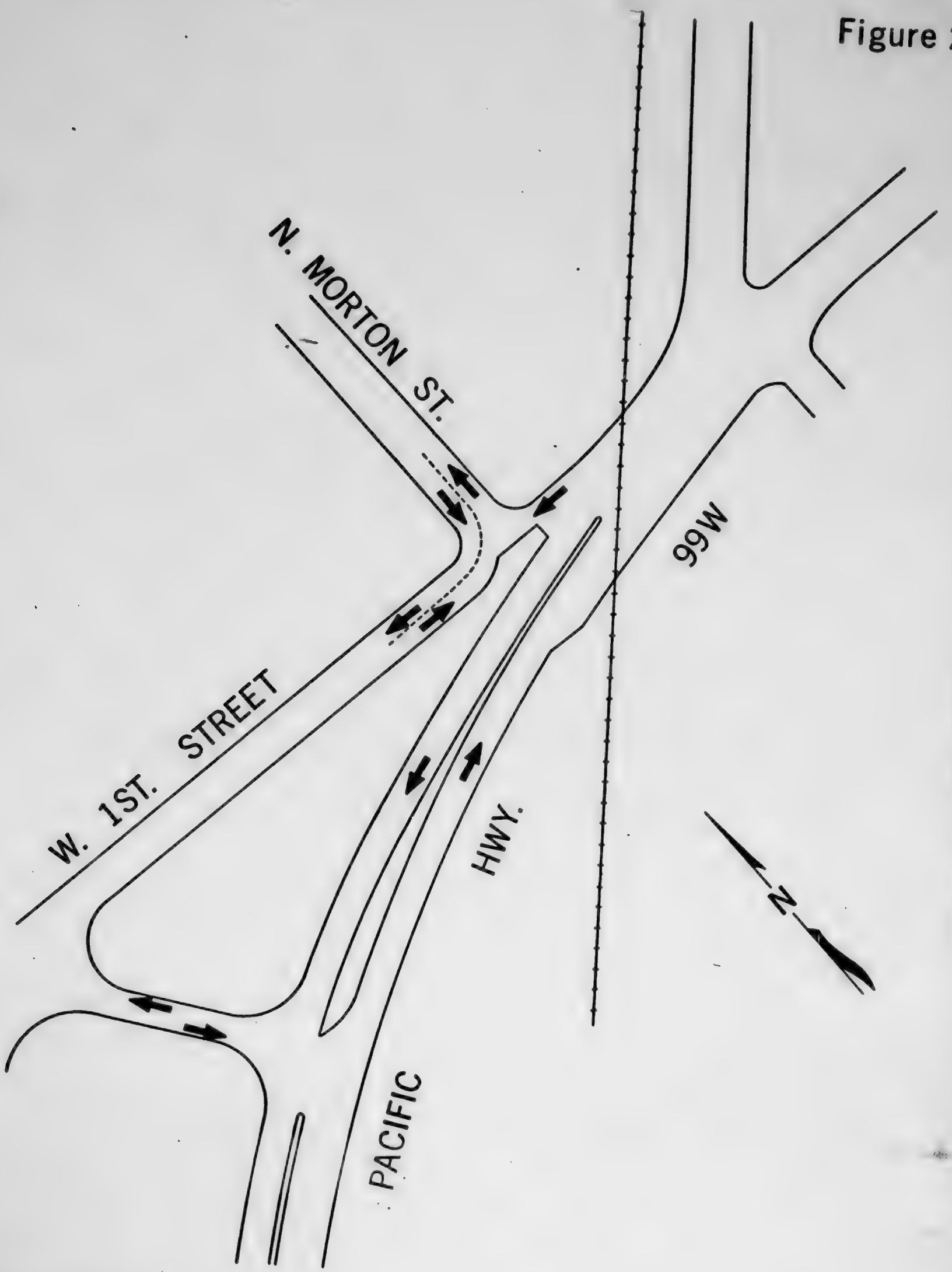
Figure 1



CHEHALEM
CREEK
NEWBERG
SECTION

PACIFIC HIGHWAY
WEST

Figure 2



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OREGON STATE HIGHWAY DIVISION

BR 2054A

HIGHWAY BUILDING • SALEM, OREGON • 97310

May 27, 1975

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator of Highways

Your File 1041BR.1

Mr. Glen Green
Division Engineer
Federal Highway Administration
P. O. Box 300
Salem, Oregon 97308

Dear Mr. Green:

Chehalem Creek Bridge
Bridge 2054A

Your letter of approval of the advance plans for the Chehalem Creek Bridge suggested that we investigate the use of a higher bearing value for the HP12x53 pound piles.

Bids on this project are to be received on June 19, 1975. For this reason we do not believe we could reasonably investigate and implement a change in the pile design bearing value without delaying the project.

We believe that under the right set of subsurface driving conditions the use of 12,000 psi tip pressure is appropriate. A decision on the use of the higher value is best made at the time of preparation of our foundation investigation report. Our Foundation Unit has been requested to give this consideration in their future recommendations.

Very truly yours,

ORIGINAL SIGNED
WALTER J. HART

Walter J. Hart
Bridge Engineer

WJH:dh

cc E. S. Hunter
Jack L. Davis /w/ encl.

NOTED
J. H. VERSTEEG

RECEIVED
MAY 28 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

8050

R

~~PRO 6-8~~

Robert W. Straub

May 23, 1975

TO Mr. G. L. Green, Oregon Division Engineer
Federal Highway Administration

FROM L. W. Rulien
Project Management Engineer

SUBJECT Program Data Submission
Project No. U-RF-52(10)

We are submitting program data for one jointly financed Urban-Rural Primary Project No. U-RF-52(10), Item No. 192 (Urban), Item No. 53 (Rural Primary), "Chehalem Creek (Newberg) Section", which we desire to have included in the Federal Aid Urban and Rural Primary Highway Programs.

It is our present intention to receive bids for this project on June 19, 1975.

We are submitting location/design approval request concurrently with this project program.

We also request your authorization, concurrent with program approval, to proceed with the preparatory work by the Southern Pacific Transportation Company required for the railroad facility adjustments and installations.

JG:ljt

Att.

Budget Bureau No. 41-R2067

U.S.

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO B. O.

FORM PR-1 (REV. 4-61)

May 22, 1975

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

CARD 2	REPORT NUMBER (18)-(20)	PROJECT LOCATION (45 typewriter spaces) 21-66		ADT	PRESENT	FUTURE (66)-(70)	YEAR (71)-(72)	REGION	STATE NAME
	1	SR 99W, SPRR Xing (Newberg), SW 0.62 mi.			10,800	18,700	95	10	Oregon

CARD 3	CHARACTER OF PROPOSED WORK (35 typewriter spaces) 28-62	NATL. FOREST (63)-(65)	FH ROUTE NO. (66)-(69)	SUPV AGCY (70)	DA CLASSIF. (72)	DA AREA (71)	EMERG. YR. (72)-(73)	PL. AUTH YR (74)-(75)	PROJECT NUMBER PREFIX LETTER (S) 14-23	NUMBER 7
	Gr., Dr., H.T. Pave, Landscape, 1-Br.								U-RF-	52

CARD	CLASS OF FEDERAL FUNDS		COUNTY NAME (14)		CO
	Urban Extension		Yamhill		8
	NAME OF URBAN AREA 17-31	ROUTE NO.	FEDERAL-AID (32)	STATE (36)-(37)	U.S.
	Newberg	P	9	1W	- -

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE (43)-(46)	STEP (53)	TERMINI (Full description)	MILES (54)-(58)	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST (59)-(66)	FEDERAL FUNDS (67)-(76)	STATE FUNDS	OTHER FUNDS
1	(1-4)(5)	(10)	41	42								
5					PE		SR 99W, SPRR Xing (Newberg), SW 0.62 mi.					
5					ROW							
5					CONST (CODE) 6203 X081 Y018		"Chehalem Creek (Newberg) Section"	(0.62)	(3,235,000)	(2,529,400)		
								0.31	1,710,500	1,337,400	373,100	
							PROJECT TOTALS	0.31	1,710,500	1,337,400	373,100	

CARD	CODE		
1	1	PREPARED BY	
1	14	PROGRAM APPROVAL DATES	

(18) (23) (24) (33)

REMARKS

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FORM PR-1 (REV. 4-61)

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

May 22, 1975

PROJECT LOCATION (45 typewriter spaces)		PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPN CODE	ITEM NO.
SR 99W, SPRR Xing (Newberg), SW 0.62 mi.	ADT	10,800	18,700	95	10	Oregon	41	032	192

PROPOSED WORK (35 typewriter spaces)	NATL. FOREST	FH ROUTE NO.	SUPV AREA	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.	T. Projects Only POST MI.	DESIG.
T. Pave, Landscape,								U-RF-	52	(10)		

FUNDS: Urban Extension

COUNTY NAME: Yamhill — CODE: 071

A: Newberg

ROUTE NO. P — FEDERAL-AID: 9 — STATE: 1W — U.S.: - -

PROGRAM STAGE: [ ] 1 OR [X] 2

WORK TYPE	STEP	TERMINI (Full description)	MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
PE		SR 99W, SPRR Xing (Newberg), SW 0.62 mi.						Gr., dr., H.T. pave a curbed section providing 4-12' lanes with 8' shldrs & a 4'-26' var median. Const. one bridge (L 820') & 5' conc. sidewalks ea. side. RR protective service as required.
ROW								ROW - 110' min.; Access Control-part.; Parking restrictions-none. Util. & RR adj. reqd. including preparatory work.
CONST (CODE) 6203 X081 Y018		"Chehalem Creek (Newberg) Section"	(0.62)	(3,235,000)	(2,529,400)			
			0.31	1,710,500	1,337,400	373,100		
		PROJECT TOTALS	0.31	1,710,500	1,337,400	373,100		

ESTIMATED PROJECT COST BY PHASES

PREPARED BY

FHWA APPROVAL DATES

REMARKS

-over-

USCOMM DUSCOMM-DC 48008-P61

CHEHALEM CREEK (NEWBERG) SECTION
PROJECT NO. U-RF-52(10)

REMARKS-continued

NOTE: This project is jointly financed using Urban and Rural Primary Federal Funds. The overall length of the project is 0.62 miles and ba on physical location of the Urban boundary the part in the Urban Area (0.31 mi) is financed with Urban Funds and the part outside the Urban Area (0.31) is financed with Primary Rural Funds.

Existing Facility: Proposed---Located line only.
Traveled Way:
East End-----Two 11' lanes with 10' shoulders.
Structure----Br. No. 2054; PT Comp. Spans; L. 812'; HC 26'; 2-3'6" SW; H-15 loading.
West End-----Two 12' lanes with 5' shoulders.

Adjacent Section: East End---One-way couplet under Project No. U-73(19).
West End---Four lane divided highway with 26' median.

Project Data: The work consists of grade, drain and high-type pave a curbed section providing four 12' lanes with 8' shoulders, a 4' to 26 variable median, landscaping and 5' sidewalks. Construct over Chehalem Creek one prestressed concrete bulb "T" beam bridge (Br. No. 2054A) 820' long with a minimum horizontal clearance of 68' with 5' sidewalks on both sides. Railroad protective service as required.

NOTE: Railroad Company to relocate for the northbound lanes the existing railroad automatic gate and flashing lights at SPT Co. crossing.

System Action, Airports, Water Developments, Historical and Recreation Areas: None involved.

Railroad Crossing Data:
Name - - - - - - - - - - - - - Southern Pacific Transportation Company
No. of Tracks- - - - - - - - - One
No. of Trains- - - - - - - - - Four freights per day
No. of Hi-speed Trains - - - None
Existing Protection- - - - - Auto. gates with flashing lights and gongs
Proposed Protection- - - - - Same as existing
Railroad Benefit - - - - - - None

IM 50-1-70 Requirements: State Clearinghouse and District 3 Clearinghouse A-95 review approval letters dated April 16, 1975 and April 11, respectively.

CHEHALEM CREEK (NEWBERG) SECTION
PROJECT NO. U-RF-52(10)

S-continued

This project is jointly financed using Urban and Rural Primary Federal Funds. The overall length of the project is 0.62 miles and based on physical location of the Urban boundary the part in the Urban Area (0.31 mi) is financed with Urban Funds and the part outside the Urban Area (0.31) is financed with Primary Rural Funds.

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Railroad Company to relocate for the northbound lanes the existing railroad automatic gate and flashing lights at SPT Co. crossing.

Action, Airports, Water Developments, Historical and Recreation Areas: None involved.

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No. of Tracks- - - - - - - - - One
No. of Trains- - - - - - - - - Four freights per day
No. of Hi-speed Trains - - - None
Existing Protection- - - - - Auto. gates with flashing lights and gongs
Proposed Protection- - - - - Same as existing
Railroad Benefit - - - - - - - None

1-70 Requirements: State Clearinghouse and District 3 Clearinghouse A-95 review approval letters dated April 16, 1975 and April 11, 1975 tively.

FHPM 7-7-2 Requirements: Major action non-significant project. Final negative declaration concurred in by FHWA.

FHPM 7-7-5 Requirements: (a) Public Hearing---Corridor/Design held April 17, 1975.
(b) Location/Design--Request being submitted concurrently with this program.

NOTE: (1) On-the-job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at P.S. & E. stage and the number stipulated in the P.S. & E. documents.

(2) The project is in Congressional District No. 1.

Data for PR-37:

Description		Urban Area	Rural Area
Roadway	(6203)	$ 536,040	$ 357,940
Bridge	(X081)	1,166,560	1,166,560
RR Xing	(Y018)	6,000	---
RR Protective Service		1,900	---
Total Estimated Cost		$1,710,500	$1,524,500

Budget Bureau No. 41-R2067; Appro

U.S. DEPA
BUR

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO B. O.

FORM PR-1 (REV. 4-61)

May 22, 1975

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

CARD	REPORT NUMBER	PROJECT LOCATION (45 typewriter spaces)		PRESENT	FUTURE	YEAR	REGION	STATE NAME
2	1	SR 99W, SPRR Xing (Newberg), SW 0.62 mi.	ADT	10,800	18,700	95	10	Oregon

CARD	CHARACTER OF PROPOSED WORK (35 typewriter spaces)	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER
3	Gr, Dr, H.T. Pave, Landscape, 1-Br.								RF-U-	52

CARD	CLASS OF FEDERAL FUNDS	COUNTY NAME	CODE
	Rural Primary	Yamhill	071

NAME OF URBAN AREA	ROUTE NO.	FEDERAL-AID	STATE	U.S.
Newberg	P	9	1W	- - -

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	STEP	TERMINI (Full description)	MILES	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS
5					PE		SR 99W, SPRR Xing (Newberg), SW 0.62 mi.					
5					ROW							
5					CONST (CODE) 6203 X081 Y018		"Chehalem Cr. (Newberg) Section"	(0.62)	(3,235,000)	(2,529,400)		
								0.31	1,524,500	1,192,000	332,500	
							PROJECT TOTALS	0.31	1,524,500	1,192,000	332,500	

CARD 1	CODE 1	PREPARED BY
1	14	PROGRAM APPROVAL DATES

REMARKS

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

TION NO.

O E. O.

FORM PR-1 (REV. 4-61)

May 22, 1975

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

MBER	PROJECT LOCATION (45 typewriter spaces)		PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPN CODE	ITEM NO.
(20)	SR 99W, SPRR Xing (Newberg), SW 0.62 mi.	ADT	10,800	18,700	95	10	Oregon	41	073	53
	21 68			(66) (70)	(71) (72)			(2) (3)	(4) (9)	(14) (18)

OF PROPOSED WORK (35 typewriter	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.	T. Projects Only POST MI.	DESIG.
H.T. Pave, Landscape,								RF-U-	52	(10)		
42	(63) (65)	(66) (68)	(69)	(70)	(71)	(72) (73)	(74) (75)	14 23	7 13		(24) (26)	27

EDERAL FUNDS	COUNTY NAME	CODE	PROGRAM STAGE
Rural Primary	Yamhill	071 (14) (16)	1 OR X 2

DAN AREA	ROUTE NO.	FEDERAL-AID	STATE	U.S.
Newberg	P	9 (32)	1W (36) (37)	- - - (41)

PROJECT CODE	WORK CLASS	WORK TYPE	STEP	TERMINI (Full description)	MILES	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
41	42	43 46	52		(54) (58)	(59) (66)	(67) (76)			
		PE		SR 99W, SPRR Xing (Newberg), SW 0.62 mi.						Gr., dr., H.T. pave a curbed section providing 4-12' lanes w/ 8' shldrs & a 4'-26' var. median. Const. one bridge (L 820') & 5' conc. sidewalks ea. side. RR protective service as reqd.
		ROW								
		CONST (CODE) 6203 X081 Y018		"Chehalem Cr. (Newberg) Section"	(0.62)	(3,235,000)	(2,529,400)			ROW - 110' min.; Access Control-part. Parking restrictions-None. Utility & RR adj. required including preparatory work.
					0.31	1,524,500	1,192,000	332,500		
PREPARED BY				PROJECT TOTALS	0.31	1,524,500	1,192,000	332,500		
						(116) (23)	(24) (33)			

PROGRAM APPROVAL DATES

REMARKS

-OVER-

USCOMM DUSCOMM-DC 48905-P61

CHEHALEM CREEK (NEWBERG) SECTION
PROJECT NO. RF-U-52(10)

REMARKS-continued

NOTE: This project is jointly financed using Urban and Rural Primary Federal Funds. The overall length of the project is 0.62 miles and on physical location of the Urban boundary the part in the Urban Area (0.31 mi) is financed with Urban Funds and the part outside Urban Area (0.31) is financed with Primary Rural Funds.

Existing Facility: Proposed---Located line only.
Traveled Way:
East End-----Two 11' lanes with 10' shoulders.
Structure----Br. No. 2054; PT Comp. Spans; L. 812'; HC 26'; 2-3'6" SW; H-15 loading.
West End-----Two 12' lanes with 5' shoulders.

Adjacent Section: East End---One-way couplet under Project No. U-73(19).
West End---Four lane divided highway with 26' median.

Project Data: The work consists of grade, drain and high-type pave a curbed section providing four 12' lanes with 8' shoulders, a 4' to variable median, landscaping and 5' sidewalks. Construct over Chehalem Creek one prestressed concrete bulb "T" beam bridge (Br. No. 2054 820' long with a minimum horizontal clearance of 68' with 5' sidewalks on both sides. Railroad protective service as required.

NOTE: Railroad Company to relocate for the northbound lanes the existing railroad automatic gate and flashing lights at SPT Co. crossing

System Action, Airports, Water Developments, Historical and Recreation Areas: None involved.

Railroad Crossing Data:
Name - - - - - - - - - - - - - Southern Pacific Transportation Company
No. of Tracks- - - - - - - - - One
No. of Trains- - - - - - - - - Four freights per day
No. of Hi-speed Trains - - - None
Existing Protection- - - - - Auto. gates with flashing lights and gongs
Proposed Protection- - - - - Same as existing
Railroad Benefit - - - - - - - None

IM 50-1-70 Requirements: State Clearinghouse and District 3 Clearinghouse A-95 review approval letters dated April 16, 1975 and April 1 respectively.

FHPM 7-7-2 Requirements: Major action non-significant project. Final negative declaration concurred in by FHWA.

CHEHALEM CREEK (NEWBERG) SECTION
PROJECT NO. RF-U-52(10)

ntinued

s project is jointly financed using Urban and Rural Primary Federal Funds. The overall length of the project is 0.62 miles and based physical location of the Urban boundary the part in the Urban Area (0.31 mi) is financed with Urban Funds and the part outside the an Area (0.31) is financed with Primary Rural Funds.

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Traveled Way:
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West End-----Two 12' lanes with 5' shoulders.

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West End---Four lane divided highway with 26' median.

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ilroad Company to relocate for the northbound lanes the existing railroad automatic gate and flashing lights at SPT Co. crossing.

tion, Airports, Water Developments, Historical and Recreation Areas: None involved.

Crossing Data:
Name - - - - - - - - - - - - - Southern Pacific Transportation Company
No. of Tracks- - - - - - - - - One
No. of Trains- - - - - - - - - Four freights per day
No. of Hi-speed Trains - - - None
Existing Protection- - - - - Auto. gates with flashing lights and gongs
Proposed Protection- - - - - Same as existing
Railroad Benefit - - - - - - None

0 Requirements: State Clearinghouse and District 3 Clearinghouse A-95 review approval letters dated April 16, 1975 and April 11, 1975 ely.

-2 Requirements: Major action non-significant project. Final negative declaration concurred in by FHWA.

FHPM 7-7-5 Requirements: (a) Public Hearing---Corridor/Design held April 17, 1975.
(b) Location/Design Approval--Request being submitted concurrently with this program.

NOTE: (1) On-the-job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at P.S. & E. stage and the number stipulated in the P.S. & E. documents.

(2) The project is in Congressional District No. 1.

Data for PR-37:

Description	Urban Area	Rural Area
Roadway (6203)	$ 536,040	$ 357,940
Bridge (X081)	1,166,560	1,166,560
RR Xing (Y018)	6,000	---
RR Protective Service	1,900	---
Total Estimated Cost	$1,710,500	$1,524,500

bc: E. S. Hunter
L. W. Rulfen
C. T. Keasey
G. A. Potter
C. O. Fredrickson
C. G. Swenson
Lyle K. Watson

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

May 22, 1975

NOTED
E. S. HUNTER

RT W. STRAUB
GOVERNOR

F. B. KLABOE
nistrator of Highways

Mr. Glen Green
Division Engineer
Federal Highway Administration
P. O. Box 300
Salem, Oregon 97308

Re: Mandatory Borrow Source
Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

Dear Mr. Green:

It is proposed that the state-owned property shown on the accompanying plan sheet be made the mandatory source for borrow for the subject project.

It is believed to be in the public interest to do so and ask that you concur.

The following reasons are given to support the decision:

1. The site is state-owned, therefore, no new property will need be acquired and removed from private use.

2. The property was used as a source of materials for previous construction, therefore, no new areas will be developed causing further encroachment of borrow pits on the environment.

3. By requiring the source to be mandatory the site development and the condition in which the site will be left upon completion of the project will be under complete control of the State; resulting in as little permanent impact to the environment as possible.

4. The approximate quantities to be removed are 7,200 cubic yards of borrow. Use of the state-owned source would eliminate the need for a like amount from private sources and the consequent depletion of a natural resource available to the public.

Very truly yours,

SIGNED BY FRANK E. TERPIN
FINAL DESIGN ENGINEER

J. H. Versteeg
Road Design Engineer

RECEIVED
MAY 23 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

FET:we
Attachment

A DIVISION OF THE DEPARTMENT OF TRANSPORTATION

SECTION A-A

MANDATORY BORROW SOURCE

8250

R

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: May 21, 1975

In reply refer to: 1041BR.1

SUBJECT: Oregon Project F-73(-)
Chehalem Creek Bridge - #2054A

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Revised preliminary plans submitted with Mr. Hunter's March 21 letter are approved.

We note that the design contemplates using HP 12 x 53 steel H foundation piling driven to 70 tons resistance. This produces a stress of 9,000 psi which is in accordance with AASHTO. Some States are now using 12,000 psi and thereby increasing their pile loads up to 90 tons. We suggest that you consider using this higher value. A pile load test would have to be made, however, to verify using the 12,000 psi stress.

for G. L. Green

NOTED
L. L. JOHNS

RECEIVED
STATE HWY ENGR
MAY 22 '75
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

5-23-75
Hunter
Ltr reply
ESU

RECEIVED
MAY 22 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

5-23-75
ORIGINAL TO
Walt Hunt
to reply.

#8250

1W

Salem, Oregon
May 15, 1975

Frank E. Terpin
Final Design Engineer

Don Harwell
County-City Engineer

Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

The enclosed print shows the reivsed plan at the intersection of Pacific Highway West, First Street and Morton Street on the above-named section. This plan deletes the cul-de-sac that had been planned on First Street. The revised plan is the result of the public hearing that was held in April.

FET:jh
Encl.

Versteeg
A. Olson
Terpin
Scott
Swenson
R. Olson
Trout

RECEIVED
MAY 15 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up ___/___/___
Other

6" San. Sew.

R.R. Signal

R.R. Signal

R/W
4° 21.776' C.L.
Δ 21° 30' 4.7"

"LN" LINE

12"

12"

12"

12"

4'

12" San. Sew.

16'

R.R. Signal

Gravel

35' A.C.

+45

Maildrop

Box

A.C.

20'R.

8" San. Sew.

36'

15'

15'

10'

40'

20'R.

R/W

7+64.03 P.C.

R/W
0° 5P.
0° 00'
0

"Ls"
162' Rad. C.R.
Δ 42° 13' 27"
T 62.55'

N. MORTON ST.

"Ls" 10+45± P.O.C.
St. Conn. 10+00 P.O.T.

R/W 10+47.62 P.C.

"Ls"
3° 53.483' C.L.
Δ 2° 01' 33"
T 26.03'

Gravel

Gravel

Gravel

Gravel

R/W

W. 1S

"Ls" 14+55.00 P.O.C
St. Conn. 10+0C

Borrow Exc.
Exc. 187
~~Emb. 3937~~

8350

R

May 5, 1975

City of Newberg
City Hall
Newberg, OR 97132

Attention: Myrland C. Gilbert
City Recorder

MISC. CONTRACTS and
AGREEMENTS No. 5785

Gentlemen:

Attached for your records is a fully executed copy of an agreement covering construction of the Chehalem Creek (Newberg) Section of the Pacific Highway West.

We have retained a fully executed copy of this agreement for the Transportation Commission's files.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

Att.

cc Bon Harwell (agree. att.)

4 7350

R

OREGON STATE HIGHWAY DIVISION

P.O. BOX 30 • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator and
State Highway Engineer

April 7, 1975

Glen L. Green, Division Engineer
Federal HIghway Administration
447 Cottage Street N.E.
Salem, Oregon 97301

Re: Special Bridge Replacement Program

Dear Mr. Green:

Enclosed are Structural Inventory and Appraisal Sheets and computer cards for five bridges that deserve replacement consideration under the Special Bridge Replacement Program.

A recent review of our inspection reports and load ratings indicated that three bridges currently on file need updating to more accurately reflect the condition of the structures. These three structures are:

Bridge No. 2054, Chehalem Creek,	Hwy. 1W
Bridge No. 662, Rock Creek,	Hwy. 157
Bridge No. 1173, Yachats River,	Hwy. 9

The review also indicated that the following two structures should be added to those currently on file:

Bridge No. 1058, Pulaski Creek,	Hwy. 244
Bridge No. 5478, Williamson River,	Hwy. 427

Please send these applications to your Washington office so that the new data may be incorporated in our priority bridge list.

Very truly yours,

H. S. Coulter
Asst. State Hwy. Engineer

JWW:jes
Enclosures

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon
April 7, 1975

FILE:

FROM: Lyle K. Watson
Design Team Supervisor

SUBJECT: Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

TO: MEMORANDUM TO THE FILES

At the plans in hand review on the named section a request was made by Region to have the storm sewer, Station 30± to Station 35+00, sized for future development of the land south of the present project. Contacts were made with the City of Newberg and Yamhill County as to development. Both have agreed that it would be commercial.

At Station 39± is presently a highway culvert that does not have an outlet. Region requested that this drainage be included with the proposed contract. This will require approximately 400 feet of 30 inch sewer pipe and a special inlet to be installed. An open ditch would have required additional right of way.

This proposal was discussed with Paul Reidl of FHWA and he has concurred with increasing the size of the storm sewer and extending it to approximately Station 39+00.

NOTED
E. S. HUNTER

LKW:we
cc: E. S. Hunter
C. O. Fredrickson
Paul Reidl, FHWA
C. G. Swenson

RECEIVED
APR 9 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

#8250

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE:

Salem, Oregon
March 26, 1975

FROM: C. G. Swenson
Specifications Engineer

SUBJECT: Chehalem Creek-Dundee and Madrona Ave.-S.E. Browning Ave. Unit for Aggregate Shoulder Material

TO: MEMORANDUM TO THE FILES

On the subject projects the summary and bid item schedules listed the unit for "Aggregate Shoulder Material" as cu. yds. In the body of the specifications the paragraph covering payment said the unit would be tons.

All holders of bidding plans were notified by phone that the unit "cu. yds." as set forth in the summary and bid schedules is correct.

CGS:we
cc: C. O. Fredrickson

Vertrees ✓
A. Olson
Tarp
Scott
Swenson
R. Olson
Trout

RECEIVED
MAR 27 1975
ROAD DESIGN SECTION

Signature Reply
Requires Approval
Receive Keep
Do not File
Return To
Bring Up
Other

Bidders Contacted in Reference
to "Aggregate Shoulder Material" Measurement

Chehalem-Dundee

Company	Phone	Person Contacted
Cascade Construction Co., Portland	222-6421	George Morton (will not bid)
J. C. Compton Co., McMinnville	472-4155	Allen Hay
K. F. Jacobsen & Co., Portland	235-3165	Don Martin
Klamath Paving Co., Klamath Falls	882-6681	John Gunner (will not bid)
Rowell & Wickersham, McMinnville	472-5366	Rosemary Hinchman
Roy L. Hauck, Salem	585-5572	Jim Lambee

Madrona-Browning

Company	Phone	Person Contacted
D & D Paving, Salem	364-4904	Dan Kluger
Salem Road and Driveway, Salem	585-5656	Manuel
Roy L. Hauck, Salem	585-5572	Jim Lambee

3250

Form FHWA 121 (Rev. 5-73)

R

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: March 25, 1975

In reply refer to: 1041BR.1/407.4

SUBJECT: Special Bridge Replacement Program

FROM: G. L. Green, Division Engineer

TO: Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. Rulien's March 24, 1975 letter requested that we include three structures to the list of bridges eligible for SBR funding. I am sorry, but I do not have that authority.

Our Washington, D. C. office maintains an inventory of all the State bridges in their computer. This data is information that has been furnished by the State. If you find that the data furnished has become invalid or needs to be changed for one reason or another; it is necessary for you to furnish new data to the Washington computer. With the new data, a new priority list can be computed. This procedure is covered in FHPM 6.7.4.1.

G. L. Green

3-27-75 Bridge Dept

RECEIVED
STATE HWY ENG
MAR 26 '75
REFER TO
FOR
Insp | Invest | R/D | D-R | Surv | Val

RECEIVED
MAR 27 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

Robert W. Straub
xxxxxxxxxxx

March 24, 1975

TO G. L. Green, Division Engineer
Federal Highway Administration

FROM ORIGINAL SIGNED BY
L. W. RULLEN
L. W. Rullen
Project Management Engineer

SUBJECT Eligible Structures
(SBRP)

Attached is a sheet indicating the structures in Oregon that have been declared eligible for Special Bridge Replacement (SBRP) since the inception of this program. You will note that 12 structures have been reconstructed (7 under this program and 5 under other programs). Current records indicate that the following structures remain eligible

Br. No.	Name
598	Coquille River
1251	Ritner Creek
9069	2nd Street (La Grande)
18101	Cozine Creek
2478	Coalbank Slough
12935	Thomas Creek
6070	Lake Oswego Outlet

We have received verbal approval from your office to add the Harrisburg Bridge (563) to the eligible list and we are asking that the following additional structures, which are high on the priority list, be made eligible for future funding:

Br. No.	Name
662	Rock Creek
2054	Chehalem Creek (Newberg)
1173	Yachats River

LWR:bb
Attach.

cc: E. S. Hunter
E. L. Hardt
D. H. Hoehring

LARRY

SPECIAL BRIDGE REPLACEMENT

	Hwy. No.	County	Route No.	Region	Section	Work	Estimated Cost 1975	Date Contract	Contract Amount	Remarks
					FHWA APPROVED 8-10-71 INDEPENDENTLY					
	450	Malheur	-	5	Snake River (Adrian) Br.	Structure	716,200	6-12-72	716,200	
					FHWA APPROVED 5-5-72 INDEPENDENTLY					
	211	Linn	OR 226	2	Sanderson Bridge	Structure	1,385,500	8-8-72	1,385,500	
					FHWA APPROVED 12-29-72					
	-	Deschutes	793	4	Little Deschutes Riv. (Montgomery) Br.	Structure	118,200	10-8-73	118,200	
2	-	Washington	631	1	Tualatin Riv. ((Golf Course Rd.) Br.	Structure	534,200	5-8-74	534,200	
3					Burnt River Br.	-	-	-	-	Project Not on System
4	-	Lane	226	3	Woahink Lake Br.					
5	-	Lane	226	3	Woahink Lake Br.	3 Structures	588,300	11-16-73	588,300	
6	-	Lane	226	3	Woahink Lake Br.					
7	-	Washington	837	1	Prickett Cr. (Stringtown Rd.) Br.	Structure	18,600	10-16-73	18,600	
8	-	Marion	147	2	Silver Cr. (Main St.) Br.	Structure	187,100	6-6-74	187,100	
9	244	Coos	-	3	Coquille Riv. Br.	Structure	1,625,000			
10	191	Polk	OR 223	2	Ritner Creek Br.	Structure	198,000			
					FHWA APPROVED 5-21-74					
1	City St.	Union	-	5	U.P.R.R. 2nd St. (La Grande)	Structure	1,290,000			
2	City St.	Yamhill	-	2	Cozine Creek Br.	Structure	358,000			
3	9	Coos	US 101	3	Coalbank Slough Br.	Structure	1,230,000			
4	-	Josephine	17-110	3	Munger Creek Br.	Structure	55,000	-	-	Replaced by County
5	-	Coos	255	3	Coos River (Landrith) Br.	Structure	880,000	8-23-74	(1,507,400)	Secondary Rural, County
6	-	Crook	717	4	McKay Creek Br.	Structure	39,000	5-1-74	(68,000)	Secondary Rural, County
	-	Wallowa	476	5	Bear Creek Br.	Structure	100,000		—	New Sec. Rural County,
8	-	Clatsop	912	2	Humbug Creek Br.	Structure	115,000	7-6-72	(159,800)	Secondary Rural, County
9	-	Linn	763	2	Thomas Creek Br.	Structure	199,000			
10	-	Clackamas	-	1	Oswego Lake Outlet Br. (McVay Ave)	Structure	175,000			
						Total Contracts			3,548,100	
						Apport. Total			4,379,000	
						Total Apport. Balance			830,900	

3-20-75

LARRY

SPECIAL BRIDGE REPLACEMENT

Route No.	Region	Section	Work	Estimated Cost 1975	Date Contract	Contract Amount	Remarks
		FHWA APPROVED 8-10-71 INDEPENDENTLY					
-	5	Snake River (Adrian) Br.	Structure	716,200	6-12-72	716,200	
		FHWA APPROVED 5-5-72 INDEPENDENTLY					
OR 226	2	Sanderson Bridge	Structure	1,385,500	8-8-72	1,385,500	
		FHWA APPROVED 12-29-72					
793	4	Little Deschutes Riv. (Montgomery) Br.	Structure	118,200	10-8-73	118,200	
631	1	Tualatin Riv. ((Golf Course Rd.) Br.	Structure	534,200	5-8-74	534,200	
		Burnt River Br.	-	-	-	-	Project Not on System
226	3	Woahink Lake Br.	3 Structures	588,300	11-16-73	588,300	
226	3	Woahink Lake Br.					
226	3	Woahink Lake Br.	Structure	18,600	10-16-73	18,600	
837	1	Prickett Cr. (Stringtown Rd.) Br.	Structure	187.100	6-6-74	187,100	
147	2	Silver Cr. (Main St.) Br.	Structure	1,625,000	-		
-	3	Coquille Riv. Br.	Structure	198,000			
OR 223	2	Ritner Creek Br.			-		
		FHWA APPROVED 5-21-74					
-	5	U.P.R.R. 2nd St. (La Grande)	Structure	1,290,000			
-	2	Cozine Creek Br.	Structure	358,000			
US 101	3	Coalbank Slough Br.	Structure	1,230,000			
17-110	3	Munger Creek Br.	Structure	55,000	-	-	Replaced by County
255	3	Coos River (Landrith) Br.	Structure	880,000	8-23-74	(1,507,400)	Secondary Rural, County
717	4	McKay Creek Br.	Structure	39,000	5-1-74	(68,000)	Secondary Rural, County
476	5	Bear Creek Br.	Structure	100,000		-	New Sec. Rural County, Comm. 1-22-75
912	2	Humbug Creek Br.	Structure	115,000	7-6-72	(159,800)	Secondary Rural, County
763	2	Thomas Creek Br.	Structure	199,000			
-	1	Oswego Lake Outlet Br. (McVay Ave)	Structure	175,000			
						3,548,100	
			Total Contracts			4,379,000	
			Apport. Total			830,900	
			Total Apport. Balance				

2050

R

Robert W. Straub
XXXXXXXXXX

March 21, 1975

Mr. Glen L. Green, Division Engineer
Federal Highway Administration
P. O. Box 300
Salem, Oregon 97308

815+

Dear Mr. Green:

Chehalem Creek Bridge, No. 2054A
Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

Your January 31, 1975 reply to our preliminary submittal for the replacement of the Chehalem Creek Bridge requested additional study on the roadway width and length of the structure. The roadway width has been increased by revising the shoulders on the structure from 3 feet to 8 feet as suggested in your letter. The sidewalk has been changed from an 8-foot walk on the west side only to a 5-foot walk on both sides. The length of the spans has been increased and one bent eliminated. We have reviewed the site conditions and believe that the full length structure is the best answer.

A study was made of a separate pedestrian crossing at a lower level using the abandoned concrete roadway underneath the existing structure and constructing a 400-foot long bridge over Chehalem Creek by salvaging part of the existing bridge. This requires steep ramps at each end and most pedestrians would probably cross the bridge using the shoulders. The estimated cost is about the same as two 5-foot walks on the bridge.

The existing bridge was constructed in 1935 and has a roadway width of 26 feet with 3'-6" sidewalks each side. The latest inspection report shows a 5-year life expectancy of the bridge. The 1973 average daily traffic count across the bridge is 11,000 vehicles. The structure requires constant maintenance and the roadway width and pedestrian walks are very inadequate. We are proposing removing the existing bridge and replacing it with a new concrete structure to current AASHTO standards.

We have studied two alternate shorter structures as shown on Drawings 21716, Alternate B, and 21716, Alternate C. Both alternates require channel changes for both Chehalem and Harvey Creeks and a 50-foot high fill in the southwest flood plain. Alternate B, a 420-foot long bridge, would have extensive cut made on the northeast side for a channel change and the material used as part of the fill. Alternate C, a 495-foot long bridge, would not require extensive cuts and all the material for the fill would come from borrow sources.

The cost comparison of the three alternates is as follows:

Alternate A

820' Structure	$ 2,717,000
Grade, Pave, et cetera	623,000
Completion Date - Fall 1976	$ 3,340,000

Alternate B

420' Structure	$ 1,392,000
Maintain Existing Structure	50,000
Grade, Pave, et cetera	1,378,000
Impact Statement	100,000
	$ 2,920,000
Inflation Factor - 12 percent	350,000
Completion Date - Fall 1978	$ 3,270,000

Alternate C

495' Structure	$ 1,612,000
Maintain Existing Structure	50,000
Grade, Pave, et cetera	1,358,000
Impact Statement	100,000
	$ 3,120,000
Inflation Factor - 12 percent	370,000
Completion Date - Fall 1978	$ 3,490,000

Sand drains for the fill were studied and it was estimated that they would cost $415,000 and are not recommended by the Soils Engineer. At best they might cut the completion time of the project by one year.

Alternates B and C would require an Environmental Impact Statement which will delay the start of the project for one year. The fill construction would require six months to complete with 4 feet of settlement occurring during this time. Six inches more settlement will occur 8 months after completion of the fill with 6 inches more ultimately occurring. This requires a total time of approximately 23 months from start of fill construction to time of paving. The times are shown on the accompanying bar chart. Alternates B or C would delay the use of the facility to the public for two years. We have not attempted to assess the user benefits of this delay.

The environmental impact of filling across a planned greenway which requires two channel changes is significant. The area is presently in private ownership but has been zoned for open space and will eventually become a greenway.

If settlement occurs over a longer period of time than anticipated, extensive maintenance will be required.

When all the above factors are taken into consideration, we feel that the full length structure, Alternate A, is the most appropriate answer for this location.

Enclosed are five copies each of the following information:

1. Plan and Elevation Drawing 30279
2. Vicinity Map Alternate A, Drawing 21716
3. Vicinity Map Alternate B, Drawing 21716
4. Vicinity Map, Alternate C, Drawing 21716
5. Foundation Data Sheets, Drawings 30030 and 30336
6. Foundation Report
7. Soils Report
8. Hydraulic Report
9. Bar Chart Showing Time to Complete Job

10. Two letters from Chehalem Park and Recreation District

11. Copy of sections from City of Newberg and Yamhill County Master Plan

This is being sent for your approval in order that design may continue and the project be ready for contract as soon as possible.

Very truly yours,

E. S. Hunter
Assistant State Highway Engineer

Enclosures

WJH:dh js

bc: F. B. Klaboe
A. E. Johnson
L. W. Rulien
W. J. Hart
V. E. Skoog

121 (Rev. 5-73)

D STATES GOVERNMENT

Memorandum

RECEIVED
STATE HWY ENGR
FEB 4'75
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: January 31, 1975

In reply refer to: 1041BR

RECEIVED
FEB 5 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

T: Oregon Project F-73(-)
Chehalem Creek Bridge #2054A
Yamhill County

M: G. L. Green, Division Engineer

Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. Wallace's preliminary submittal for Mr. Hart has been reviewed and the bridge site visited with your people. A new structure certainly is desirable at this location. Due to the heavy traffic and pedestrian problems the narrow old structure is very inadequate.

We find the proposed structure very long for the site and request the soil data and estimates supporting the structure vs. fill over the southwest flood plain of the creek be forwarded to us for review. Settlement problems are noted. We wonder if you have considered preloading the approaches and putting in sand drains to accelerate the settlement.

Environmental considerations will be a concern, particularly if a city park is contemplated in the flood plain area. A statement on this subject would be desirable if a public hearing is requested.

NOTED
E. S. HUNTER
Last 2/5
2/6.
E.S.H.

We find that the roadway does not meet even the minimum AASHTO design requirements and request that you reconsider the proposed width. During our field review some of your people suggested a separate pedestrian crossing by salvaging part of the old structure, dropping the grade and constructing a short bridge to meet the abandoned concrete roadway underneath. This would allow more width on the new bridge at little increase in cost and reduce the traffic conflict between pedestrians and vehicles.

It appears that more study is needed before an acceptable solution is found. Please restudy the site and resubmit with the above suggestions in mind. Please note the submission must go to our Washington office because it is over $1 million.

for G. L. Green

NOTED
L. L. HANEL

8350

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

March 13, 1975

Robert W. Straub
~~TOM McCALL~~
GOVERNOR

F. B. KLABOE
Administrator of Highways

TO

Executive Department
Federal Aid Coordination Unit

Mid Willamette Valley
Council of Governments
Room 305, Civic Center
Salem, Oregon 97301

FROM

George N. Hopkins
Project Development Engineer

SUBJECT

Notice of Intent for Primary Rural Funds
State Administrative District No. 3
Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

In accordance with Executive Memorandum 02-270-20, attached are copies of the Notices of Intents for the subject project.

Early programing of this project for advance planning in anticipation of future construction is necessary; therefore, your prompt attention to this proposal will be appreciated.

Allowing time for your review, we estimate the date of filing for federal-aid funds on this project to be April 23, 1975.

Attachment

BLG:js

cc: G. L. Green, FHWA
F. B. Klaboe
V. D. Wolfe
J. B. Boyd
R. E. Royer
J. H. Versteeg
Gary Potter
W. D. Albright
G. N. Hopkins, County-City
B. L. Gifford
D. E. Swan
F. T. Lacey
C. O. Fredrickson
Aeronautics Division

OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

NOTIFICATION OF INTENT TO APPLY FOR FEDERAL AID

For Internal Use Only	[1-8] PNRS #	[9] CARD TYPE:	Page One

02 [12] APPLICANT: State Highway Division [45] | [46] DIVISION: Department of Transportation [79]

03 [12] APPLICANT ADDRESS STREET: State Highway Building [45] | [46] CITY: Salem [60] | [76] ZIP: 97310 [80]

04 [12] CONTACT PERSON: L. W. Rulien [45] | [46] AREA CODE [48] [49] PHONE [55] [56] EXTENSION [59]: 503 378 6563

01 [12] PROJECT TITLE: Chehalem Creek (Newberg) Section District 3 [71]

11 [12] PROJECT LOCATION CITY: Pacific Highway West [45] | [46] PROJECT LOCATION COUNTY: Yamhill [79]

05 [12] SUMMARY PROJECT DESCRIPTION (ATTACH SUPPORTING DOCUMENTS AS NECESSARY) [71]

This project, approximately 0.6 miles in length, involves the replacement of

06 [12] [71]

an old 2-lane bridge. The proposal will connect the Newberg couplet with the

07 [12] [71]

existing southerly 4-lane section by providing a new structure and approaches

08 [12] [71]

on revised alignment to the west. The roadway will have four travel lanes,

09 [12] [71]

variable median, with appropriate shoulders and bikeway.

10 [12] [71]

12

FEDERAL FUNDS		NON-FEDERAL MATCHING FUNDS		OTHER	TOTAL
[12] (A) Grant [19]	[20] (B) Other [27]	[28] (C) State [35]	[36] (D) Local [43]	[44] (E) FUNDS [51]	[52] (F) FUNDS [60]
2,166,000	-	610,000	-	-	2,776,000

13 [12] TYPE OF OTHER FEDERAL FUNDS (See 12B) [45] | [46] TYPE OF OTHER NON-FEDERAL FUNDS (See 12E) [79]

14 [12] FEDERAL PROGRAM TITLE: Title 23 U.S.C. Highways [71]

15 [12] FEDERAL AGENCY NAME: U.S. Department of Transportation [45] | [46] FEDERAL SUB-AGENCY NAME: Federal Highway Administration [79]

17

(A) TYPE OF APPLICANT: (Check (X) the single most applicable box)

STATE	INTER-STATE	COUNTY	CITY	SCHOOL DISTRICT	SPECIAL DISTRICT	COMMUNITY ACTION	SPONSORED ORGANIZATION	OTHER
[X] 12	[ ] 13	[ ] 14	[ ] 15	[ ] 16	[ ] 17	[ ] 18	[ ] 19	[ ] 20

(B) TYPE OF ACTION: (Check (X) as many boxes as apply to this action)

NEW GRANT	CONT. GRANT	SUPPL'T GRANT	INCREASE DURATION	DECREASE DURATION	CANCELLATION	INCREASE DOLLARS	DECREASE DOLLARS
[X] 21	[ ] 22	[ ] 23	[ ] 24	[ ] 25	[ ] 26	[ ] 27	[ ] 28

(C) IS THERE A COMPREHENSIVE PLAN?

STATE		REGIONAL		LOCAL		(D) REVIEW REQUIRED by A-95		(E) ENVIRONMENTAL IMPACT		(F) HOUSING RELOCATION REQUIRED	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
[X] 29	[ ] 30	[ ] 31	[ ] 32	[ ] 33	[ ] 34	[X] 35	[ ] 36	[X] 37	[ ] 38	[ ] 39	[X] 40

(See IV, Page 2)

(G) ESTIMATED APPLICATION FILING DATE: [41] MONTH [42]: April | [43] DAY [44]: 23 | [45] YEAR [46]: 1975

ADDITIONAL INFORMATION — ALL APPLICANTS

FEDERAL CATALOG NUMBER (OR PUBLIC LAW NO. AND TITLE): 20.205 Highway Planning and Construction

HAS DISTRICT CLEARINGHOUSE BEEN NOTIFIED? No ☐ Yes ☒ Date: March 13, 1975

HAS FUNDING AGENCY BEEN NOTIFIED? No ☐ Yes ☒ Date: March 13, 1975

IF PROJECT INCLUDES STATE FUNDS (12C), IDENTIFY AGENCY: State Highway Division

LIST PERTINENT PLANNING DOCUMENTS OR PROJECT STUDIES (See 17C): Federal-aid Primary Rural Annual Six Year Construction Program, 1975

EXPLAIN DEVIATIONS (IF ANY) FROM PERTINENT PLAN

(a) Federal Congressional District(s) Number(s): 1
(b) State Representative District(s) Number(s): 29
(c) State Senatorial District(s) Number(s): 15

STATE AGENCIES ONLY

(a) IS PROGRAM BUDGETED ☐ NON-BUDGETED ☐

(b) STATE SHARE

GENERAL FUND CASH	OTHER FUND CASH	IN KIND
$	$	$

(c) FUNDING METHOD

	FEDERAL SHARE	STATE SHARE	TOTAL
First Year	%___ $___	%___ $___	%___ $___
Second Year	%___ $___	%___ $___	%___ $___
Third Year	%___ $___	%___ $___	%___ $___

(d) WILL PROGRAM REQUIRE HIRING OF NEW STATE EMPLOYEES? No ☐ Yes ☐ Number ___

(e) Will accounting for this grant be administered by the Executive Dept. Accounting Division? Yes ☐

REMARKS

17(E) This is a category 3 project of major (nonsignificant) action. A negative declaration will be prepared under Oregon's Action Plan.

Right-of-way will be required for this project and public hearings are in process of being offered.

This project is proposed by the State Highway Division in cooperation with the District 3 Council of Governments.

OREGON STATE HIGHWAY DIVISION

CORRIDOR DESIGN HEARING MAP

CHEHALEM CREEK (NEWBERG) BRIDGE

PACIFIC HIGHWAY WEST

YAMHILL COUNTY

MARCH, 1975

2150.

R

PRO 4-3

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

SALEM, OREGON

DATE March 6, 1975

TO Mr. E. S. Hunter
Assistant State Highway Engineer

FROM L. W. Rulien
Project Management Engineer

SUBJECT Assessment and Project Category
Chehalem Creek Bridge
Pacific Highway West
Yamhill County

Attached for your information is an assessment, concurred in by the FHWA.

Project Management classifies this section as a Category 3 project of major action. (Non-significant)

Your approval will place this project in our Project Management System and allow its development in accordance with Action Plan procedures.

BLG:ljt
Attach.

cc: J. B. Boyd (3)
L. E. George
W. J. Hart
C. T. Keasey
Victor D. Wolfe
G. A. Potter
Gary Sund
R. E. Royer
County/City Unit
D. E. Swan
B. L. Gifford
Region 2: C. O. Fredrickson
District 4: H. C. Johnson

APPROVE
E.S.H.
E. S. Hunter
Date 3-10-75

RECEIVED
MAR 1 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

3-10-75
ORIGINAL TO
L. W. Rulien
w/att.

Oregon State Highway Division

PROJECT ENVIRONMENTAL ASSESSMENT

Date January 9, 1975

A. PROJECT IDENTIFICATION

Name of Project Chehalem Creek Bridge (Section) RF-52(-)

Location of Project - Pacific Highway West (Highway Name) 99W (Highway No., US - ORE)

Newberg (City) Yamhill (County) 2 (Region)

Program State Bond & Fed. aid (Funding) $2,300,000 (Estimated Cost) 36-1304 (Prefix)

B. PURPOSE AND ORIGIN OF PROJECT

Purpose: To replace an older (circa 1935) 2-lane bridge crossing with a 4-lane structure and connect the Newberg couplet with the southerly 4-lane section with comparable 4-lane highway. This would serve the dual purpose of replacing an aging and curved structure with a new-safer structure plus relieving the tendency of south-

(cont. page 1A)

Origin and History: Originally designed in 1961 as a state project involving no Federal aid, the first proposal involved rechannelization of Chehalem Creek through two "super-span" culverts and filling in of the Chehalem Creek valley at this location. Geological

(cont. page 1A)

C. DESCRIPTION OF PROJECT (PROSPECTUS)

Length 3,250 feet, approximately 0.6 mile

Termini North: S.W. terminus of the Newberg couplet

South: Northerly end of the 4-lane section between Newberg and Dundee.

Alignment (new or existing) New alignment shifted to the west.

CATEGORY 3 PROJECT
MAJOR
NON-SIG.

Form (2)9-74

PURPOSE: (cont.)

bound traffic to "bottleneck" in Newberg where the transition from 4-lane to 2-lane presently occurs.

ORIGIN AND HISTORY: (cont.)

problems related to settling have precluded this proposal. At one time, this section was considered as part of the Hess Creek-Chehalem Creek Section (Newberg Couplet), but was dropped from that project before finalization. Survey was conducted in 1961.

Description of Project (cont.)

Right-of-Way (acreage and type of land use) Approximately 5.47 acres of land has already been acquired and an additional 1.1 acre is currently in process, totalling (cont. page 2A)

Typical Section 4 travel lanes, varing median (4 ft. and up), shoulders and one bikeway/pedestrian path.

Bikeway One bikeway proposed

Structures About 820 foot bridge crossing the Chehalem Creek Valley. Columns will be set on footings placed below surface with piles driven (cont. page 2A)

Additional Facilities

Access Control Sunnycrest Rd. (to the West at north end of project) would be realigned to intersect this section at right angle. Access along the westerly side of the (cont. page 2A)

Materials Approximately 16,000 tons of paving and construction materials would be obtained, most probably from commercial sources.

Borrow and Waste Disposal From 3,500 to 5,000 yards of additional fill would be required. This might be obtained from the area just north of the creek valley (cont. page 2A)

Special Construction Methods 15 piles per footing driven to a depth of approximately 53 feet below surface. Some cofferdaming or diversion necessary during in-stream construction.

Characteristics (ADT)

1973-74, ranges from 11,800 normal ADT to summer peaks as high as 15,200.

Other General Information (or Supplemental information to items)

Zoning for the Chehalem Creek valley is "open space" and is intended for future "Greenway" designation with scenic easements required.

Project Sketch Map is Attached: [X] Yes [ ] No

RIGHT-OF-WAY (cont.)

6.57 acres of residential zoned property. Relocation estimate (having begun in early 1960's) is 6 resident houses, 3 business buildings, and at least one travel trailer.

STRUCTURES: (cont.)

for support of each footing. Four of these footings would be placed in the Chehalem Creek bed, one in Harvey Creek.

ACCESS CONTROL: (cont.)

project segment north of the bridge would be controlled, channeling all access by way of Sunnycrest Road. No other access control is envisioned.

BORROW AND WASTE DISPOSAL: (cont.)

owned by OSHD, but would more probably be obtained from other sources determined by the region.

D. LOCATION AND/OR DESIGN ALTERNATIVES (IDENTIFY AND DESCRIBE)

1. These alternatives entail channel change for both Chehalem and Harvey Creeks, and at least partial filling of the Chehalem Creek Valley.

A. Partial fill across the valley, approximately 500 feet, with channel change and 300 foot structure across rechanneled streambed.

B. Fill across entire width of stream valley, rechannelization of Chehalem Creek through 28'10" x 17'5" "superspans," and construction of roadway across fill.

2. These alternatives entail construction of a structure from bank to bank across Chehalem Creek with no change in stream channels.

A. Construction of two lane structure for southbound traffic and repair and maintenance of old bridge for northbound traffic. Project life expectancy

(cont. page 3A)

E. PUBLIC PARTICIPATION AND INTERAGENCY COORDINATION

Public Input to Date (hearing held, etc.,) None held to date

Public Hearing(s) Schedule: [X] Not Required [ ] Required

Type _____ Tentative Date(s) _____

A-95 Review: [X] Not Required [ ] Required

Date Submitted _____ Date Received _____

Expected Coordination with Local, State and Federal Agencies

Yamhill County Planning Office, Oregon State Fish Commission

Expected Coordination with Individuals, Groups, and Organizations During EIS Preparation

D. LOCATION AND/OR DESIGN ALTERNATIVES (cont.)

for the existing structure of 5 years has precluded this alternative.

B. Construction of 4-lane structure on alignment shifted approximately 85 feet to the west of the existing structure and tying to couplet and existing 4-lane highway with four-lane segments.

3. "No Build" alternative brings 4-laning from Portland south into Newberg, narrowing to two-lane facility within Newberg city limits. Ending of outside southbound couplet lane at junction with Sunnycrest Road confuses users not familiar with this section. Traffic "back-up" into Newberg is serious traffic congestion potential.

As noted in "History" section, alternatives A-1 and A-2 were rejected on basis of foundation difficulties.

F. STATUS OF PROJECT DEVELOPMENT

OSHD Status	Date	FHWA Status	Date
☐ Survey Authorization		☐ Systems Planning	
☐ Reconnaissance		☐ Prel. Engineering	
☐ Field Location		☐ Corridor Approval	
☐ Office Location		☐ Design Approval	
☐ Field Prel. Design		☐ Plans, Specifications and Estimates Approval	
☐ Office Prel. Design			
☐ Final Design	December 23, 1974		
☐ Contract Plans	Bids scheduled for letting March 27, 1975		

G. BRIEF ENVIRONMENTAL SETTING OF PROJECT AREA

Natural (Topography, Flora, Fauna, Soils, Water Features, Drainage, etc.)

The northerly segment, starting at the southwest end of the Newberg couplet, within the city limits of Newberg, runs through a short developed segment (approx. 1400 ft.). Along the northwesterly side of this segment, zoning is Urban Residential and along the southeasterly side zoning is Light Commercial according to 1985 Comprehensive Plan, Newberg, Oregon,which document is relatively consistent with present land use along this segment. Prior to the beginning of right-of-way acquisition for the Chehalem Creek Section project, usage along the westerly side of this segment was mixed residential and light industry, but remaining usage is almost entirely residential: Individual houses (one with incorporated business), and one trailer court. Centerline of the southbound lanes is shifted 40 ft. to the northwest at the northerly terminus to tie into the couplet, and maintains this shift through the length of the new curve, gradually swinging more westerly as the new section seeks straight alignment across the bridge structure. The new structure is shifted (southbound

(cont. Page 4A)

G. BRIEF ENVIRONMENTAL SETTING OF PROJECT AREA (cont.)

lanes) approximately 85 ft. to the northwest at the northerly end of the structure. The bridge segment spans the Chehalem Creek valley at the confluence of Harvey Creek with Chehalem Creek (see Biologist's report attached). Water quality of Chehalem Creek in this area is poor, showing high turbidity. Commercial or game fish populations are quite low and intermittent. Lincoln Pearson of the Oregon State Fish Commission anticipates presence of only a few cutthroat trout in the Fall and Spring, enroute to tributaries of Chehalem Creek, and very low summer fish populations due to the warm and still condition of the creek. The Chehalem Creek floodplain has been designated for zoning as "Open Space" for an eventual greenway by both Yamhill County and the city of Newberg. Ultimately, scenic easements will be required in this area, and accordingly Mr. Dave McDonald, Planning Director for Yamhill County, has requested that OSHD bear in mind the aesthetic impact of the bridge structure from the visual perspective of a future user of the stream valley greenway.

The old Ewing Young Sawmill site is located approximately 4,500 ft. southeast of the bridge site, along Chehalem Creek. This site is being studied by the State Parks Division for possible inclusion in the Federal Register of Historic Sites. This site, however, is not in line-of-site with the proposed highway structure, and since construction disturbance of the stream should be temporary in nature, no impacts are anticipated on this potential historic site from the Chehalem Creek Section project.

Environmental Setting (cont.)

Cultural (Land Use, Noise, Air Esthetics, Utilities, etc.) The southerly segment, from the bridge to the connection with the existing 4-lane section passes through an area zoned rural residential (Yamhill County 1985 Preliminary General Plan). This area contains one business property (a roadside tavern) and the remainder is scattered residential and farming. Right-of-way requirements displaced one residence and two associated buildings in this area during property acquistiion in the 1960's. Although not highly developed, the existing environment through this segment is significantly modified by human activities: home site development, parking area for the tavern, and some agriculture.

LAND USE: The land use approved under the Yamhill County Plan allows further development of the area around the southerly segment of the project into bedroom community for Portland communters. Increased highway efficiency associated (cont. page 5A)

H. PRELIMINARY ASSESSMENT OF ENVIRONMENTAL IMPACTS

1. Estimated Right-of-Way Requirements:

   6.57 acres of residential zoned land required, 5.47 acres already acquired. Displacement estimate is 6 resident houses, one travel trailer, and three businesses.

   Consequences: Acquisition of land in the project area has resulted in actual land use more closely adhering to land use plans than was previously true. Due to changes in design, some of the land acquired by OSHD is superfluous to the present project and might be sold, thus reducing the total amount "required" by the project.

2. Estimated Changes in Traffic Patterns:
   Little exists that could be used as an alternative route to the section proposed for improvement. The bulk of the traffic will use the facility, improved or not. Some slight increases may be experienced as a result of improved flow attracting more local residents and more vacationers to the coast along this route.

   Consequences:

   Net effect should be improved flow of traffic on 99-W in the Newberg area.

- CULTURAL (cont.)

with the Chehalem Creek section project would probably accelerate this development slightly, but it is anticipated that current fuel costs will offset this trend to a large extent.

UTILITIES: Some utilities replacement is required.

NOISE: Present noise levels, measured and estimated, exceed federal standards for residential areas in the vicinity of one travel trailer and three resident houses. Alignment revision is anticipated to increase noise levels somewhat in the area westerly of the section, to the north of the bridge structure.

Preliminary Assessment of Impacts (cont.)

3. Estimated Changes in Land Use:

Some land use changes have already resulted from right-of-way activities. Possibly some slight increase in residential development in the area will result from the improvement project.

Consequences:

A greater degree of consistency with the County and City Comprehensive Plan results.

4. Expected Adverse Effects on Natural Ecological Resources:

Stream and stream valley will be disturbed by access road, pile-driving activities (including 5 in-stream footings), and stream diversion during footing and column base pouring.

Consequences:

Temporary. Effects will be for duration of construction. Stream expected to recover rapidly. Valley expected to revert to present condition within 10 years maximum.

5. Expected Adverse Effects on Cultural and Scenic Resources:

Scenic resource (stream valley greenway) has not yet been developed. Visual effect of the new bridge structure will probably be an improvement over the old structure.

Consequences:

Project should not prevent subsequent scenic development.

6. Preliminary Identification of Areas of Critical Environmental Concern:

7. Potential for Controversial Issues:

Noise impacts: A claim for inverse condemnation has been filed for Brown Funeral Home on Hancock Street in Newberg, on a basis of noise violation on the Newberg Couplet. Thus, public attention has been drawn to highway noise violation in this area.

8. Potential Consistency of Proposal with (complete when applicable):

a. Clean Air Implementation Plans
No increase in auto emissions is anticipated as a result of this project. Improved traffic flow should tend to reduce, somewhat, pollution levels within the town of Newberg.

b. Noise Standards It is anticipated that noise levels will exceed federal standards for residential areas in the proximity of some 7 homes and 5 trailers. Increase in noise levels is not anticipated to be more than four dBA L_{10} for any of these sites. An increase of 4 dBA under most circumstances is just barely perceptible to the human ear.

c. Water Quality Standards When Chehalem and Harvey Creeks are disturbed for cofferdam construction or diversion around in-stream pile driving and footing construction, water quality will be temporarily worsened; primarily through increased turbidity although present condition approaches saturation. Post construction water quality is expected to be relatively unchanged from present conditions.

I. HIGHWAY DIVISION STAFF REQUIREMENTS TO COMPLETE ENVIRONMENTAL IMPACT STUDIES AND DOCUMENTATION

ENVIRONMENTAL SECTION -

PERSONNEL	EFFORT REQUIRED*		
	Minimum	Average	Maximum
Biologist		X	
Urban Economist	X		
Water Quality Spec.		X	
Acoustical Engineer			X
Air Quality Engineer		X	
Cultural Geographer		X	
Urban Planner	X		
Geologist	X		

* For the sake of clarification and mutual understanding the terms minimum, average and maximum effort have been defined as follows:
MINIMUM - Research and Project Management Staff consultation. No formal typewritten report.
AVERAGE - Routine analysis. Short to medium length report including consideration of existing setting, probable impact, and steps to minimize harm.
MAXIMUM - Special detail of analysis. Comprehensive technical report.

8. b. Noise Standards (cont.)

NOISE ADDENDUM

TOTAL NOISE CHANGES: 4 dB increase - 1 trailer

3 dB increase - 1 house, 1 trailer

2 dB increase - 3 houses, 1 trailer

1 to 2 dB increase - 1 house, 2 trailers

Total noise violations of new alignment: 7 houses, 6 trailers

Staff Requirements (cont.)

LOCATION SECTION -
(Location, Hydraulics, Photocopy, Photogrammetry)

DESIGN SECTION -
(Preliminary Design/Final Design, Specifications)

PROJECT MANAGEMENT SECTION -
(Typing, Graphics)

REGION -
(Environmentalist, Resident Engineer)

OTHER -

ACTION CLASSIFICATION

_X_ Major _____ Non-major

J. PROJECT (ACTION PLAN) CLASSIFICATION:

☐ Category 1 ☐ Category 2 ☒ Category 3 ☐ Category 4

K. TYPE OF DOCUMENTATION RECOMMENDED

☐ Draft EIS
☐ Final EIS
☐ Supplemental Draft EIS
☐ Supplemental Final EIS
☐ Section 4(f)
☒ Negative Declaration
☐ State-Wide Negative Declaration
☐ Preliminary EIS
☐ Other _____

According to Chapter I of Title 23, Part 771, this project is deemed a major action, which is anticipated to have a non-significant effect on the quality of the human environment.

Chehalem Creek Bridge Section

Biologist's Report

VEGETATION

The Vegetation of the Chehalem Creek study area is basically riparian in nature, but it is no longer typical of naturally occurring riparian communities of northwestern Oregon. At some time in the past the land appears to have been partially cleared allowing the invasion and subsequent domination of a species which is intolerant of the shaded conditions which are characteristic of riparian stands.

Scattered remnants of the preceeding stand remain; these are predominantly old Big Leaf Maple with lesser amounts of mature Douglas Fir and Western Red Cedar. The heights of these remnants is between 50 and 80 feet; they are largely confined to the bank zone of Harvey Creek and to the steepest slopes of the main strath of the Chehalem Creek. Where these trees produce enough shade to limit the advance of Himalaya berry, thickets of Red Alder and Bigleaf Maple saplings 5 to 15 feet in height form the middle story.

The majority of the land in the study area is dominated by Himalaya berry. This dense shrub growth has suppressed the growth of other species to a great extent, and shows signs of further invasion of the few open grassy areas which still exist.

In the future, the stands of Himalaya berry can be expected to completely take over existing open areas, while, at a much slower pace the shaded woodland stands will gradually shade out and destroy the adjacent Himalaya berry. Eventually the entire main valley will return to a woodland condition; the existence of Himalaya berry has merely served to lengthen the process.

Two parcels of land are nearly devoid of vegetation. These are the abandoned black topped road which lies beneath the highway bridge, and the land beneath the railroad trestle. Neither of these parcels presents a problem to wildlife movement within the riparian zone. They do, however, constitute a long term loss of natural productivity.

WILDLIFE & HABITAT

The riparian zone of the Chehalem Creek is a fairly continuous woodland surrounded by agricultural (grassland) and urban (mixed grassland/woodland) habitats. For this reason its presence adds a highly desirable diversity contrast of resources to an otherwise tedious environment.

Riparian zones in general have certain very desirable characteristics: (1) cover is dense and is often the only cover available for woodland/grassland or brush species, (2) diversity of plant species is an important source of winter persistant foods, (3) because of their linear nature and dense cover riparian zones are often important wildlife travel lanes, (4) the linear nature of these stands produces a disproportionately large amount of habitat "edge" from areas of small acreage.

The study area still retains many of these potentially beneficial characteristics even though it is no longer typical as explained above, however, little evidence was observed to indicate that wildlife use of the area was as high as was anticipated.

It is possible that clearing and replanting the land in the right-of-way could accelerate the return of this land to a more typical riparian community (plant) by planting trees of sufficient size to overtop any subsequent invasion of Himalayaberry. Wildlife use of the area could be increased for certain species by a number of inexpensive methods and this could be very desirable if greenway status is planned for this stretch of river. Choice of plantings and the installation of a few nest boxes and photographic blinds could increase the numbers of Wood ducks, Gray squirrels, songbirds, using the area while at the same time boost our public image a few yards.

OREGON STATE HIGHWAY DEPARTMENT

Located Line

CHEHALEM CREEK (NEWBERG) SECTION

PACIFIC HIGHWAY WEST

YAMHILL COUNTY

Scale: 1 inch = 100 feet

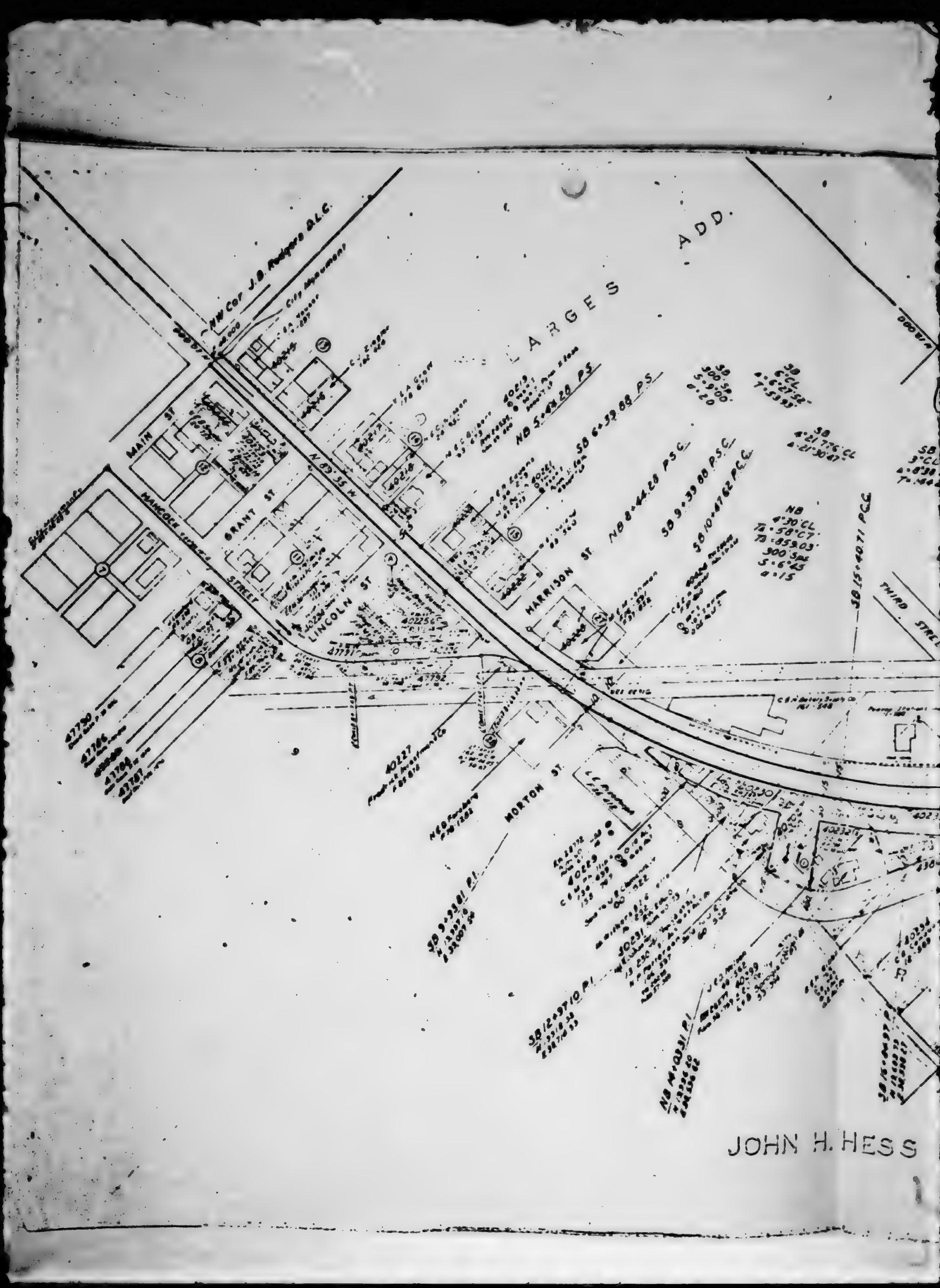
Traced by M L J

April, 1966
Rev. May, 1973

TRUE BEARINGS

DRG. NO. 88-35-23

ACCESS CONTROL LINE ——— · ——— · ——— · ———


NW Cor J.B. Rodgers D.L.C.
LARGES ADD.
MAIN ST
GRANT ST
LINCOLN ST
HARRISON ST
MORTON ST
THIRD STREET
N 89°35' W
S 89°39'88" P.S.
N 8°44'28" P.S.C.
S 10°41'62" P.C.
S 11°04'57" P.C.
JOHN H. HESS

SEE 1A-2-50 FOR PRIOR RW

JOHN H. HESS D.L.C. NO. 39

THIRD STREET

CITY LIMITS

EOU

OSHD

CHEHALEM

SLOUGH

LOT 31

T 3 S., R. 2 W. W.M.
ORG. NO. BB-35-23

TERRACE

DAVID RAMSEY

DLC NO. 40.

T3S, R2W WM
T3S, R3W WM

SOUTHERN PACIFIC CO.

S 44° 17' W

DAVID

DLC

HOMES

ACRES

T 3 S., R. 2 W. W.M.
DRG. NO. 88-35-23

DAVID RAMSEY

DLC NO. 40.

T3S, R2W W.M.
T3S, R3W W.M

SOUTHERN PACIFIC CO.

S 44° 17' W

DAVID RAMSEY

DLC NO. 59

HOMES ACRES

36-1304
PLA 6-1-1
75-2

NEWS RELEASE

OREGON STATE HIGHWAY DIVISION

OFFICE OF REGION ENGINEER
Salem 97310
378-2626

For further information, contact: C. O. Fredrickson, 2960 State St., Salem 378-2626

HOLD FOR RELEASE ON THURSDAY, MARCH 13, 1975

Replacement of the existing Chehalem Creek Bridge in Newberg will be the subject of a formal corridor - design public hearing to be held in the City Council Chambers of Newberg's City Hall on Thursday evening, April 17 at 7:30 p.m.

The proposal calls for construction of a new four lane concrete bridge, approximately 820 feet long, to be built just northerly of the existing structure. Sidewalks are to be provided on both sides to handle the pedestrian traffic. Once construction is completed and traffic is moved to the new alignment, the old bridge would be removed.

Highway representatives will be available to answer questions prior to the formal hearing at an informational session scheduled between the hours of 5:00 and 9:00 p.m. on Wednesday, April 16. The informational session will also be held in the City Council Chambers.

#8250

~~3662~~ 1W
36-1304
H. Hanstey

CITY OF NEWBERG

414 EAST FIRST STREET — TELEPHONE 538-9421 — NEWBERG, OREGON 97132

CITY OF NEWBERG 1893 OREGON

REGION 2 ENGINEER
RECEIVED
FEB 27 1975
RCE RME RTE ROE
UIE GEO RSO ROC RFE

February 26, 1975

Charles Frederickson
Oregon State Highway Division
Highway Building
Salem, OR 97310

Re: Chehalem Creek Bridge

Dear Mr. Frederickson:

Pursuant to meeting with representatives of your department, please be advised the City does approve and recommend the five feet sidewalks on each side of the proposed bridge.

Sincerely,

M. C. Gilbert
Finance Officer

MCG:bb

cc Vic Wolfe
Walt Hart
Hal Hanstey
Harry Potter
Ed Welsh
Ed Payton

1 Vertrees
2 A Olson
3 Turpin
Scott
Svenson
K. Olson
Trout

RECEIVED
MAR 3 - 1975
ROAD DESIGN SECTION

Requires Reply
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Receiver Keep
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Bring Up
Other

REFERRED TO

Board — Reed
Cole — Sample
Eriksen — Watson W
Heger — Wolfe
Reform Discuss Do File Copy Due
BY FINAL DESIGN ENGINEER

8250

F. Terpin IW

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE

REGION 2 ENGINEER
RECEIVED
FEB 27 1975
RTE ROE
UTE GEO RSO ROC RFE

FILE: 36-1304

Woodburn, Oregon 97071
February 26, 1975

FROM: C.E. Payton, Resident Engineer
by H.E. Hamilton, Ass't. Res. Engr.

TO: C.O. Fredrickson, Region Engineer

SUBJECT: Chehalem Creek (Newberg) Sect.
Pacific Highway West
Yamhill County

Curve Problem

Our field work on subject project indicates the 1-degree curve at the south end of the LS line does not allow the forward tangent to match into the centerline of the existing roadway.

To correct this problem, we propose to move the PI back on the semi-tangent a sufficient distance to make the correction.

The PS and most of the 400-foot spiral of this curve fall on the new structure, therefore, this proposed alignment change should be brought to the attention of both bridge and road design sections.

We have attached copies of the field note for forwarding to these sections.

Versteeg
A. Olson
Terpin
Scott
Swenson
E. Olson
Trout

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ROAD DESIGN SECTION

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Receiver Keep
Do not File
Return To
Bring Up
Other

CEP/HEH/ew
Enc.
cc: File

cc Frank Terpin w/attach ✓ Please reflect this new information on the plans
A Nemec

cc Vic Wolfe w/attach
John Tindell " "

REFERRED TO
Board Reed
Cole Semple
Erikson Watson
Hager Wolfe
Return Discuss Do File Copy Dua
BY FINAL DESIGN ENGINEER

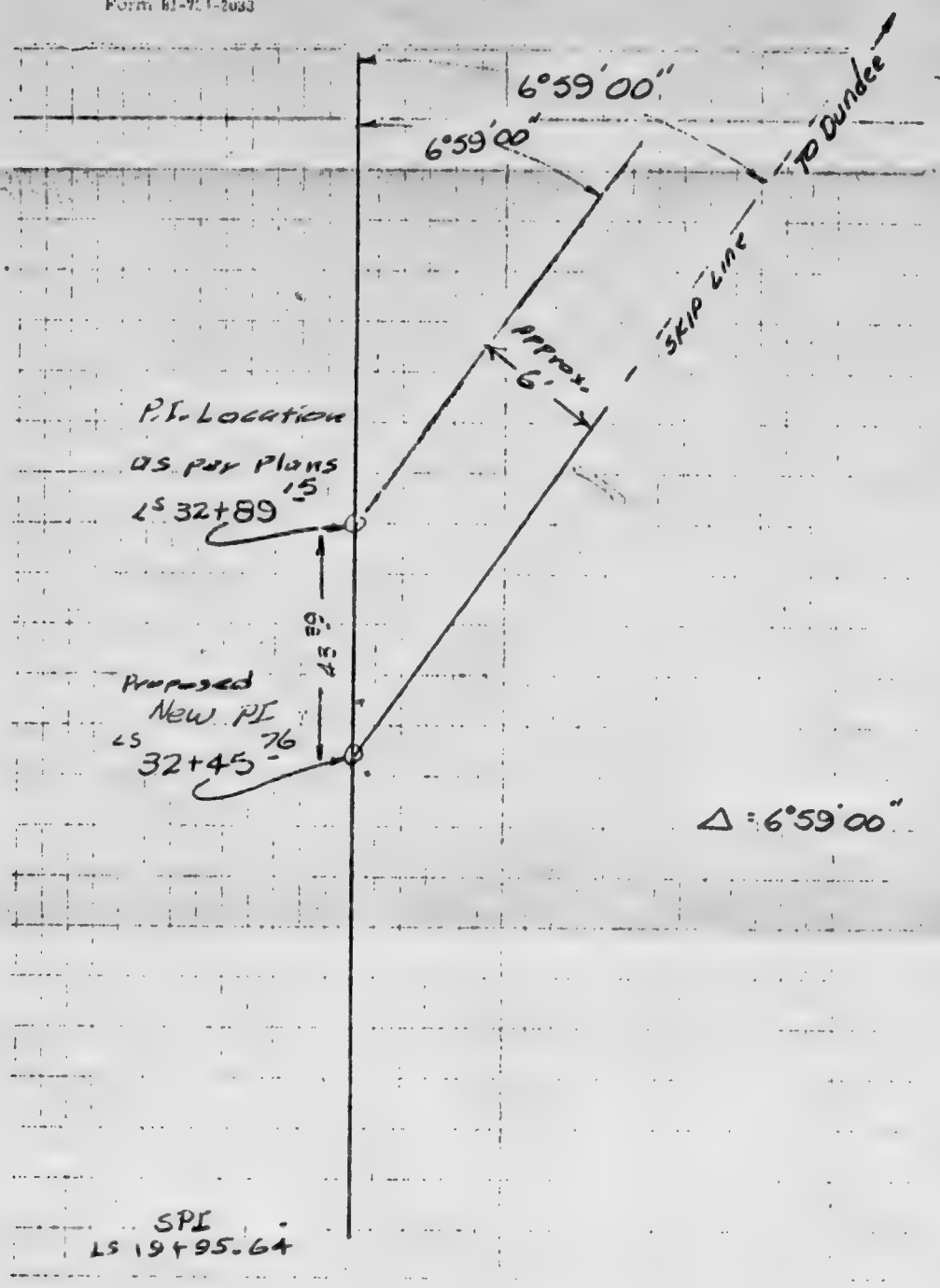
LS Line Date 2-24-75 Party D. Billings, B. Fowler, P. Fields

Project Chehalem Cr. (Newberg) Sect.

OREGON STATE HIGHWAY DIVISION

TRANSIT SHEET

Form 81-751-2033



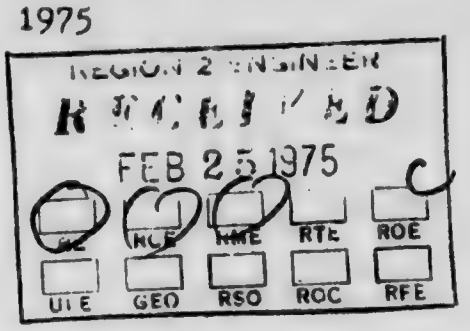
36-1B04

Jimmy M. Kesey, Superintendent

CHEHALEM PARK & RECREATION DISTRICT
1802 HAWORTH AVE - NEWBERG, OREGON 97132 - PHONE 538-2969

BOARD OF DIRECTORS
Antonia Crater
Leonard Attrell — David Paxton
Dale Halm — Neva Crabtree

February 21, 1975



Jerry Wimer
Regional Construction Engineer
Oregon State Highway Building
Salem, Oregon 97310

Dear Mr. Wimer:

In regard to the Chehalem Creek (Newberg) Section Pacific Highway West, Yamhill County, I wish to make the following comments.

1. I concurr with the city of Newberg that a footpath down into the creek-bed would not be practical. As I stated in the January meeting at Woodburn, it would be best to have sidewalks/ bike paths on both sides of the bridge.

2. The bridge engineer assured me that the proposed fill on the southwest end of the bridge would not damage or effect the creek bed. I hope any settlement that occures because of the fill will not affect the creek bank to the extent it interferes with the creek bed.

3. The inclusion of a landscaping element in the plan is important, both for the esthetics and to offer a noise and visual buffer between the highway and trailer court on the northwest side of the bridge.

Thank you again for the opportunity to express my opinion.

Respectfully Yours,

Jimmy M. Kesey
Superintendent

JMK:kb

cc: City of Newberg

#8250

IW

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
February 21, 1975

To: Victor D. Wolfe
Location Engineer

SUBJECT: Chehalem Creek Bridge Section
Pacific Highway West
Yamhill County
Sand Drains for the Fill Foundation

Attention: George Wills

My estimate of the cost of sand drains for the Chehalem Creek Bridge fill foundation is $315,000.

Art Bolinger says he has an approximate figure from Willamette Wester of 9 to 10 dollars per foot, which comes out to 340 to 380 thousand dollars.

The granular blanket subdrain under the fill comes to 100,000 dollars more. It is estimated separately because it probably should be placed under the fill whether the sand drains are used or not.

F. W. Yarbrough
Soils & Geology Engineer

FWY:af

:REFERRED TO

Board	Reed
Cole	Sample
Eriksen	Watson W
Hager	Wolfe

Return Discuss Do File Copy Due
BY FINAL DESIGN ENGINEER

1 Versteeg W
A. Olson
2 Terpin T
Scott
3 Swenson
R. Olson
Trout

RECEIVED
MAR 3 - 1975
ROAD DESIGN SECTION

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Other

Form E-108
SP*5(108)-71

Job No. .....
Sheet 1 of ..... Sheets

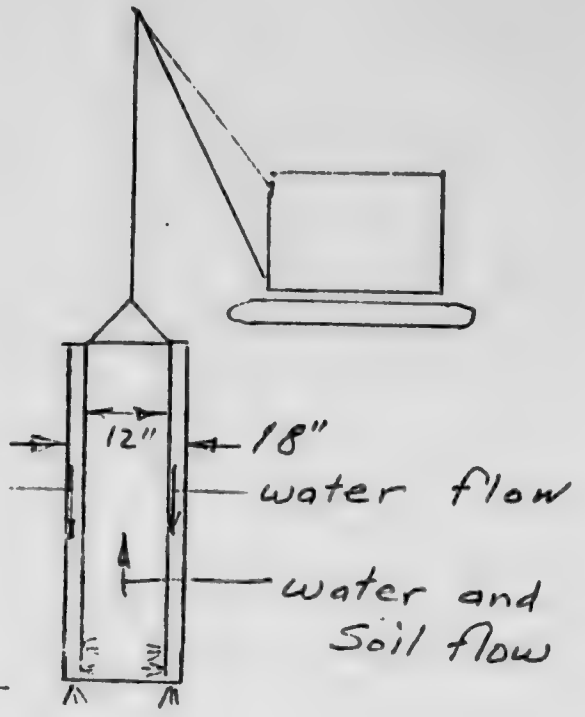
OREGON STATE HIGHWAY DIVISION

Calculations for Sand Drains : Chehalem Creek Bridge
Made by FY 2-21 , 19 75 Checked by , 19..... Backchecked by , 19.....

COST ESTIMATE: Sand Drain Installation

470 drains × 80' deep × 18" diameter

Crane, 25-ton	$35/hr	$280.00/day
Loader, 2cy	$20/hr	$160.00/day
Air Compressor 175 cf	$5.00/hr	$40.00/day
Pump	$25.00/hr	$200.00/day
Truck & pickup		$50.00/day
Water		$30.00/day
		$760/day *



Jetting Scheme for making sand drain hole.

Foreman	$100.00/day
Crane Op.	80
Loader "	80
Pile Buckr	160
Pump & Air	70
Truck Dr	70
	$560.00/day

* Fuel oil included in rental rate

Total Labor + Equipment Rental = 560 + 760 = $1320.00

Assume 3 holes per day 157 days

Cost of 470 holes = 470 holes / 3 holes/day × 1320 = $207,000

470 × 80 = 37,600 lin. ft @ 10¢ $38,000

Form E-105
aSP*S2008731

Job No. .....

Sheet 2 of ..... Sheets

Calculations for .....

Made by ..... 19 Checked by ..... 19 Backchecked by ....., 19.....

Sand $\frac{3}{4} \cdot 1.5^2 \cdot \frac{50}{27} = 5$ cy/hole

5 cy/hole × 420 holes × 7.00 = $16,500

Handling water and pipe: $12,000

per waste water

Summary:

Labor & Equip. Rental	$207,000
Sand	16,500
Handling water	12,000
Jet pipes	10,000
Misc equip. & supplies	4,500
	250,000
Omissions. 10%	25,000
	275,000
overhead & profit	40,000
	$315,000

Granular Blanket Subdrain over foundation, 6' average depth

6	× 50' long	× 170' wide	× 6' deep	× $\frac{1}{27}$	=	11,300
1	× 50	× 140	× 6	× $\frac{1}{27}$	=	1,500
2	× 50	× 50	× 6	× $\frac{1}{27}$	=	1,800
						14,600 cy

Say. 16,000 cy at 6.00/cy = $100,000

#2250

IW

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE

FILE:36 - 1304

Salem, Oregon
February 19, 1975

FROM: Gerald W. Wimer
REGION CONSTRUCTION ENGINEER

SUBJECT: Requested Landscaping
Chehalem Creek Bridge
Pacific West Highway

TO: Hal Versteeg
ROAD DESIGN ENGINEER

Jim Kesey of the Chehalem Creek Parks & Recreation District requested at our January 22, 1975, Plans Review that the fill slope on the high side of the super in Newberg be planted. He indicated the District would be willing to maintain.

This matter was subsequently reviewed with Newberg Mayor, Jack Nulsen and Financial Officer, M. C. Gilbert.

Landscape Engineer, Roy Olson indicates the maximum cost would be $5,000. It is respectfully requested that plans be prepared and bid items included for such a planting. The establishment could be omitted from the usual specifications for this small amount of planting.

If you are agreeable to such a planting or if you are not, it is respectfully requested that you advise at an early date and we will conclude an agreement with the City of Newberg with the City being as the prime obligators on the maintenance.

1 Versteeg ✓
A. Olson
Terpin
Scott
2 Swenson
R. Olson
Trout

RECEIVED
FEB 27 1975
ROAD DESIGN SECTION

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Requires Approval ☐
Receiver Keep
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Other

2
we copy

2-25-75
OK
EAH

GWW/elk
cc: Roy Olson
Ed Payton
Mainor Holmes
Phil Stearns

cc sent Olson Wimer.

RECEIVED
FEB 24 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

3250

R

Form FHWA 121 (Rev. 8-73)

UNITED STATES GOVERNMENT

Memorandum

Oregon Project RF-52(-)
Chehalem Creek Bridge
Pacific Highway West, Yamhill County
SUBJECT: Project Assessment

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: February 19, 1975

In reply refer to: 1041DB.2

FROM : G. L. Green, Division Engineer

NOTED
E. S. HUNTER

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon
Attention: Mr. L. W. Rulien, Project Management Engineer

The subject project assessment submitted with Mr. Rulien's January 24, 1975 letter has been reviewed. We concur with your finding that the proposed project constitutes a major action requiring the preparation of a negative declaration.

It should be understood that our concurrence is only on the type of action and type of environmental document. The proposed standards, the design, and other specific details contained in the assessment will be subject to future reviews.

William A. Kyspus
for G. L. Green

Attachment
Project Assessment

cc:
OSHD (G Potter)

RECEIVED
STATE HWY ENGR
MAR 5 75
REFER TO Rulien
FOR
Info | Invest | R/D | D/R | Sign | Act | File
X

3-5-75
Rulien - Please handle.

RECEIVED
MAR 5 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

3-6-75
ORIGINAL TO
L. W. Rulien
w/att.

V. 1 - - "8250

IW

FORM E-20

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
February 6, 1975

To: Victor D. Wolfe
Location Engineer

SUBJECT: Chehalem Creek Bridge Section

This Soils Engineer's Report documents the fill foundation analysis made to date for the proposed fill between stations 23 and 32 on the Chehalem Creek Bridge section.

Stability analyses indicate that it is feasible to construct a fill of about 50-feet height as proposed without either subexcavation or counterbalance provided that at least six months' construction time can be used to make the fill. The actual required time can only be determined during construction by monitoring the pore pressure build-up and dissipation as the weight of the fill is increased.

Counterbalances could be used to shorten the dissipation time if desired. A natural counterbalance exists along the left side of the proposed fill ahead of station 26. Subexcavation of the soft foundation is not feasible because of the excessive depth required to be fully effective.

Total settlement of the foundation under the fill will be near 5-feet. About 4-feet should take place by the time the fill is completed. Primary settlement will be completed about eight months after completion of the fill, and no more than about a half foot more of secondary settlement should ultimately occur.

Subgrade should be overfilled at the end of grading--an amount equal to the expected additional settlement before paving, about a foot. A surcharge is not recommended because about eight feet would be required to effect much of a time saving and this amount would extend the dissipation time needed for stability.

1 Versteeg
A. Olson
3 Terpin
Scott
2 Swenson
R. Olson
Trout

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FEB 7 - 1975
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Bring Up ___/___/___
Other

F. W. Yarbrough
Soils & Geology Engineer

FWY:af

cc: Walt Hart
John Tindall
J. H. Versteeg
C. O. Fredrickson
Ed Johnsen

Watson: Rehorn

NO. 340 KEUFFEL & ESSER CO.
SEMI-LOGARITHMIC
5 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U.S.A.

50' fill < 120 #/ft³ = 6000 #/ft² = ΔP

Foundation pressures, P

0-10'	5 × 60 #/ft² = 300 #/ft²	6300 #/ft²
10-30'	20 × 60 = 1200	7200
30-50'	40 × 60 = 2400	8400
50-80'	65 × 60 = 3900	9900

	e_o	e_1
0-10	1.1	0.92
10-30	1.04	0.9
30-50	1.0	0.89
50-80	0.96	0.87

Settlement, S

0-10, $S = 10\left(\frac{1.1-0.92}{2.1}\right) = 0.9$

10-30 $S = 20\left(\frac{1.04-0.9}{2.04}\right) = 1.4$

30-50 $S = 20\left(\frac{1.0-0.84}{2.10}\right) = 1.10$

50-80 $S = 30\left(\frac{0.96-0.67}{1.96}\right) = 1.4$

4.8

Settlement after 20' subexcavation

20-50 $S_1 = 30\left(\frac{1.02-0.84}{2.02}\right) = 1.9$

50-80 1.4

3.3

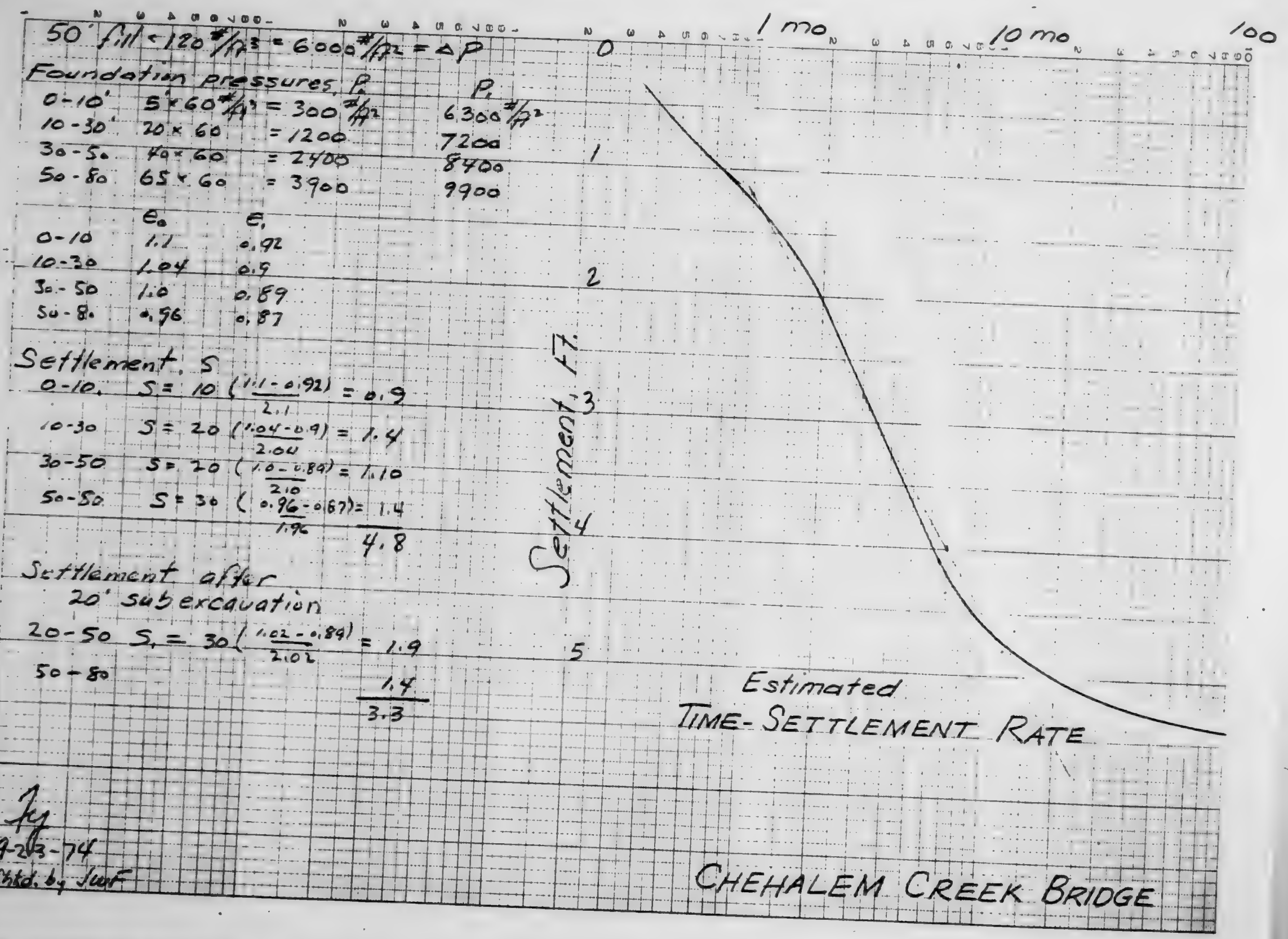


Fig
9-23-74
Chkd. by JWF

CHEHALEM CREEK BRIDGE

$$H = \frac{6c}{\phi} = \frac{6 \times 1000}{720} = 50$$

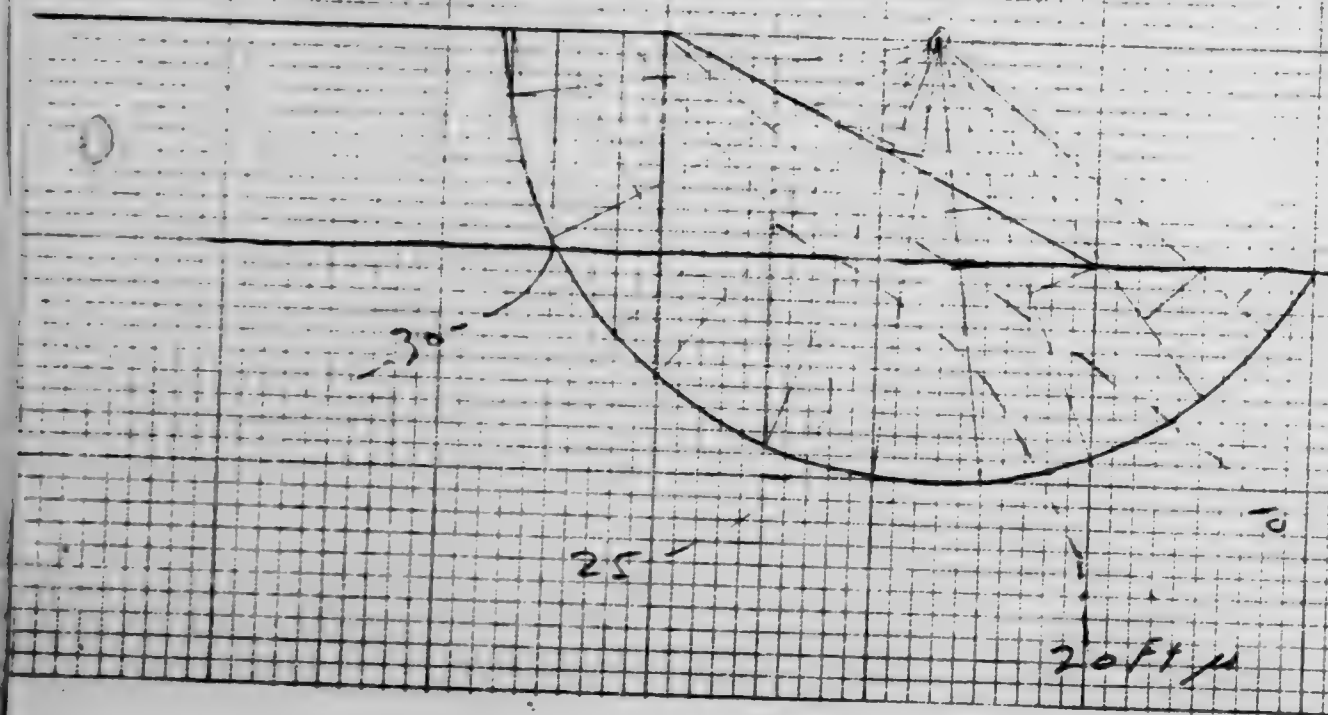
N
9
15
24
39
22
13
8
117.2 N

T — T
61 — 15
62 — 17
02 — 2
1.24 — 36
−36
0.88

Preliminary
Showing dissipation must be +70% with this assumed distribution.

2-5-75

$$SF = \frac{\Sigma N \tan \phi}{T} = \frac{1.75 \times 0.5}{.98} = 1.0$$



Chehalem Creek Bridge
STABILITY ANALYSIS
1" = 50'

10 X 10 TO THE INCH
KEUFFEL & ESSER CO
MADE IN U.S.A.
751001

$$P_A = \frac{1}{2}\gamma H^2 \frac{1}{N_\phi} - 2cH\frac{1}{(N_\phi)^{\frac{1}{2}}} + \frac{2c^2}{\gamma}, \quad N_\phi = \tan^2\left(45^\circ + \frac{\phi}{2}\right)$$

$\phi = 14^\circ$; $N_\phi = \tan^2 52^\circ = (1.3)^2 = 1.7$, $c = 600\ \#/ft^2$

$$P_A = \frac{1}{2} \cdot 120\ \#/ft^3 \cdot \overline{50}^2 \times \frac{1}{1.7} - 2 \cdot 600 \cdot 50 \times \frac{1}{1.3} + 2 \cdot 600 \cdot 600 \times \frac{1}{120}$$

$$= 88000\ \# - 46{,}000 + 6000 = 48{,}000\ \#$$

$cL_{50} = 600\ \#/ft \times 100' = 60{,}000\ \#$; $SF = \frac{60{,}000}{48{,}000} = 1.25$

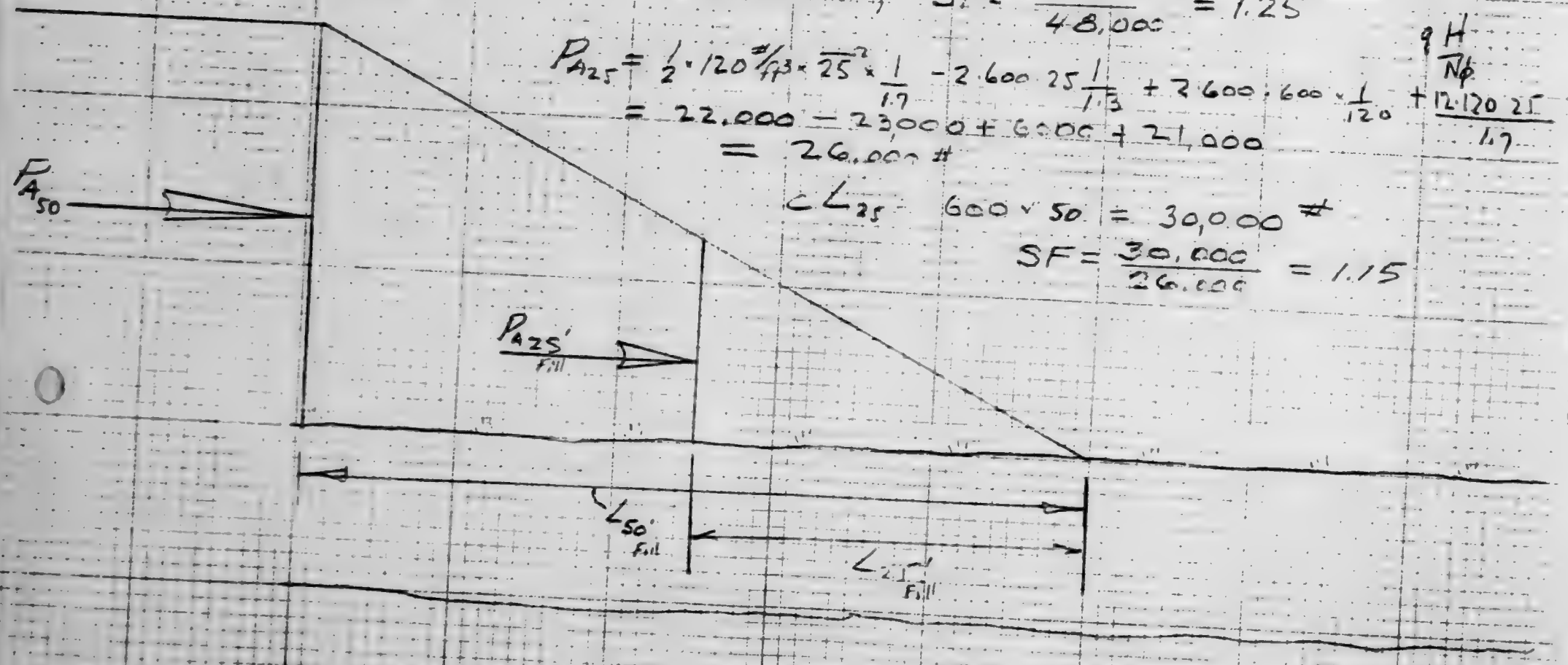
$$P_{A_{25}} = \frac{1}{2} \cdot 120\ \#/ft^3 \times \overline{25}^2 \times \frac{1}{1.7} - 2 \cdot 600 \cdot 25 \frac{1}{1.3} + 2 \cdot 600 \cdot 600 \times \frac{1}{120} + \frac{12 \cdot 120 \cdot 25}{1.7}$$

$$= 22{,}000 - 23{,}000 + 6000 + 21{,}000$$

$$= 26{,}000\ \#$$

$cL_{25} = 600 \times 50 = 30{,}000\ \#$

$SF = \frac{30{,}000}{26{,}000} = 1.15$



Drill Hole 2LY | Hole 1LY | Hole 3LY

		w
28+91	7	35
27+65	5	47
24+50	7-11	34
"	7	53
"	5	19
Ch Ch	7	10
"	10-20	35
"	22-27	40
"	27-32	64
24+75	45-55	56

1" = 50 blows per foot

HOLE 74-1

Hole 74-1
w, 1" = 100%

ELEVATION, Feet

160
140
120
100
80
60
40
20
10

wood
blue clay
gravels
sandy
sand lenses

Chehalem Creek Bridge

N-depth.
w-depth plots

8250

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

RECEIVED
STATE HWY ENGR
FEB 4'75
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: January 31, 1975

In reply refer to: 1041BR

SUBJECT: Oregon Project F-73(-)
Chehalem Creek Bridge #2054A
Yamhill County

FROM: G. L. Green, Division Engineer

TO: Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

8150

Mr. Wallace's preliminary submittal for Mr. Hart has been reviewed and the bridge site visited with your people. A new structure certainly is desirable at this location. Due to the heavy traffic and pedestrian problems the narrow old structure is very inadequate.

We find the proposed structure very long for the site and request the soil data and estimates supporting the structure vs. fill over the southwest flood plain of the creek be forwarded to us for review. Settlement problems are noted. We wonder if you have considered preloading the approaches and putting in sand drains to accelerate the settlement.

Environmental considerations will be a concern, particularly if a city park is contemplated in the flood plain area. A statement on this subject would be desirable if a public hearing is requested.

We find that the roadway does not meet even the minimum AASHTO design requirements and request that you reconsider the proposed width. During our field review some of your people suggested a separate pedestrian crossing by salvaging part of the old structure, dropping the grade and constructing a short bridge to meet the abandoned concrete roadway underneath. This would allow more width on the new bridge at little increase in cost and reduce the traffic conflict between pedestrians and vehicles.

It appears that more study is needed before an acceptable solution is found. Please restudy the site and resubmit with the above suggestions in mind. Please note the submission must go to our Washington office because it is over $1 million.

for G. L. Green

#8250

1W

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

January 30, 1975

FILE:

Lyle K. Watson

FROM: Lyle K. Watson
Design Team Supervisor

SUBJECT: Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

TO: MEMORANDUM TO THE FILES

A plans in hand review was held on the named section at C.E. Payton's office in Woodburn.

Jim Kesey, Chehalem Park and Recreation District, stated that they prefer sidewalks on both sides of the structure; landscaping of slopes right of Station 11+00 to 22+50 the north end of the structure. A greenway is being considered in this area and the district likes the structure over the fill.

Jonathan Taylor, Eddie Welsh, and Paul Riedl stated that a public hearing may be required. Mr. Kesey felt that it should be offered.

Al Harwood and Paul Riedl questioned the three foot shy distance from curbs, inadequate width for emergency stops, and traffic passing too close to walks. Riedl had conferred with Hal Versteeg and FHWA personnel and approved the downscoping of this section. Typical section is being reviewed for striping and walk on both sides of the structure.

Floyd Lacey requested an area for parking of maintenance equipment at either end of the structure. An approach to the street connection right of Station 32+90 was proposed.

A problem of poor drainage and ponding of surface water, approximately Station 38+90, Lacey proposed draining this area back through the storm system to end of the structure. Region will furnish additional information and make recommendations.

Gerry Wimer requested that curb radii should be the same. This will be reviewed by Final Design.

It was requested that the old pavement beneath the existing structure be removed and the roadway obliterated after structure removal. This will be added to plans.

An agreement will be required with the City of Newberg and County-City will prepare and acquire.

C. E. Payton will have the development plan for the borrow source turned in by the first of this week (January 27 or 28). He also gave us his set of plans showing additional utilities, approaches, drainage and other recommendations.

Existing drainage at the intersection of W. 1st Street will be tied in.

Additional fastening details of wire fabric will be shown for the 36 inch stand pipe energy dissipator.

RECEIVED
JAN 31 1975
ROAD DESIGN SECTION

Versteeg ___ A. Olson ___ Terpin ___ Scott ___ Swenson ___ R. Olson ___ Trout ___

Prepare Reply ___ Return for Approval ___ Receive Keep ___ Do not File ___ Return To ___ Bring Up ___ Other ___

NOTED
J. H. VERSTEEG

Granular backfill from the borrow source will be shown for the bridge ends.

LKW:we
cc: To Participants

#2250

FORM E-30

TRA 7

1W

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

SALEM, OR 97310

DATE January 22, 1975

TO C. O. Fredrickson
Region III Engineer

FROM L. E. George
Traffic Engineer

1 Versteeg ✓
A. Olson
2 Terpin T
Scott
Swenson
R. Olsen
Trout

RECEIVED
JAN 24 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up / /
Other

SUBJECT Sign Study Plans
Chehalem Cr.(Newberg) Sec.
Pacific Hwy. West
Yamhill County

There are attached five copies of our Sign Study Plans showing proposed signing installations on the above named section. Will you please review these plans in the usual manner and give us your comments and recommendations. Also, will you please submit copies ot the City and County for their review. They should note suggestions for changes on one set of the plans, sign the plans in the spaces provided and return them to you for eventual return to this office.

Due to the date of schedule for this project, it would be appreciated if these plans could be expedited.

ELS:pb
Attachment

cc: J. H. Versteeg - w/att. ✓

REFERRED TO

1 Board WVR Reed
Cole Sample ZBH
Eriksen Watson
Heger Wolfe
Return Discuss (Do) File Copy Due
BY FINAL DESIGN ENGINEER

8'0"

TRUCKS - CAMPERS 8C
TRAILERS - BUSES 8C
UNLAWFUL TO 8C
IMPEDE TRAFFIC 8C
IN LEFT LANE 8C

MOVE EXISTING SIGN FROM STA 41+

30

SPEED ZONE AHEAD

4'6"

SUNNYCREST → 9" 8C

4'6"

← SUNNYCREST 9" 8C

STOP

"DEAD END"

STOP

STOP

SOUTH
99W
45 x 36

10'0"

Dundee 2 8-6
McMinnville 14 8-6

4'6"

← McMINNVILLE 8C
PORT_AND → 8C

99W
30 x 24

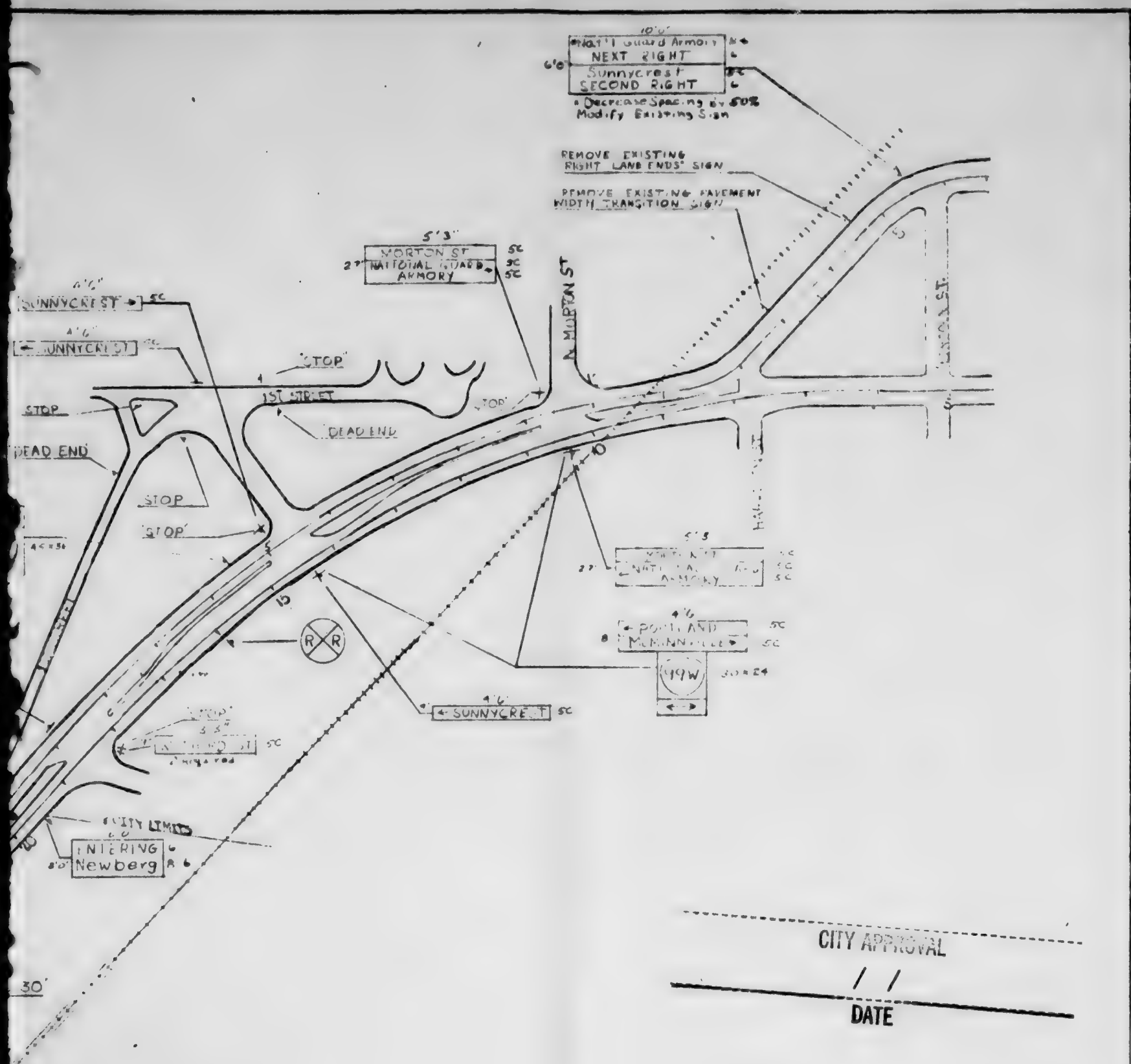
CITY LIMITS

ENTERING
Newberg

SPEED 55

SPEED 30

REMOVE ALL EXISTING TRANSITION SIGNS



CITY APPROVAL

/ /

DATE

COUNTY APPROVAL

/ /

DATE

SIGNAL PROJECT

Approved 1-26-75

#8250

IW

Southern Pacific
Transportation Company

Room 251-N Union Station • 800 Northwest Sixth Avenue • Portland, Oregon 97209

IN REPLY PLEASE REFER TO

C. T. BABERS
SUPERINTENDENT
W. F. CURRIER, JR.
ASSISTANT SUPERINTENDENT
J. W. FERGUSON
DIVISION ENGINEER

January 10, 1975

911829/321-4

Mr. J. E. Chidsey, P.E.
Railroad and Utility Engineer
Oregon State Highway Division
Highway Building
Salem, Oregon 97310

Dear Sir:

Referring to your letter of December 24, 1974, in regard to Chehalem Creek (Newberg) Section of the Pacific Highway West in Yamhill County.

A very rough estimate to install a cantilever signal standard No. 2B and shift the existing standard No. 4 automatic gate would cost approximately $5,000 plus additives.

Please provide us with plans showing actual work necessary by our forces as soon as possible, so that we may ask for authority and prepare agreement to cover this work.

Yours truly,

Chas. T. Babers

REFERRED TO
Beard 2 Reed W
Cole Sample
Eriksen 1 Watson W
Heger Wolfe
Return Discuss Do File Copy Due
BY FINAL DESIGN ENGINEER

xc: L. W. Rubien
D. E. Swan
C. G. Swenson
J. H. Versteeg.

1 ✓
2 ✓
Yellow copy

RECEIVED
JAN 13 1975
ROAD
DESIGN
SECTION

NOTED
J. E. CHIDSEY

2250

Bridge 2054 A

R

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

TOM McCALL
GOVERNOR

F. B. KLABOE
Administrator of Highways

January 10, 1975

Mr. Glen L. Green
Division Engineer
Federal Highway Administration
Salem, Oregon

NOTED
E. S. HUNTER

Dear Mr. Green:

Chehalem Creek Bridge, No. 2054A
Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

Enclosed are two prints each of drawings 30279, 21716, sheets 2, 4, 4A, and 5, which are the plan and elevation, vicinity map, and grading sheets for the subject structure. Also enclosed are two copies each of the hydraulic report and two memorandums concerning the subject structure. The foundation report is not complete at this time but will be sent as soon as it is available.

The alignment, elevation, sidewalk and roadway width are in accordance with the requirements established for this project. The length was established to span the existing canyon and is approximately the same length as the existing structure.

The hydraulic report suggested either a 300-foot bridge or twin super span culverts. A soils investigation was made and it was found that either alternate would cause approximately 5 feet of settlement in the underlying soil. The fill would have to be placed in lifts over a period of time monitoring the pressure in the underlying soil to insure lateral displacement did not occur. The fill would catch on the other side of the existing structure causing settlement to occur in the soil under the bridge.

RECEIVED
JAN 13 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

The piling for the existing bridge penetrate about 20 feet and are founded in the soil subject to settlement. In addition, lateral pressure from the fill would be applied to the existing pile bents. Constructing the fill in two stages was considered but this would double the fill placement time. Because of the settlement problem, both the 300-foot bridge and the super spans were eliminated.

As described in the attached memos, both a medium length and a full length structure were considered with the full length structure determined to be the most appropriate for this location.

The estimated cost, based on approximate quantities and including an allowance for engineering and contingencies, is $2,250,000.

This is being sent to you as a preliminary submittal for your approval.

Very truly yours,

for
Walter J. Hart
Bridge Engineer

JMT:dh
Enclosures

cc E. S. Hunter
L. W. Rulien
V. E. Skoog
C. O. Fredrickson /w/ print of 30279

#8250

TRA 7

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

SALEM, OR 97310

DATE December 30, 1974

TO MEMO TO FILES

FROM Tom Lancaster
Traffic Investigator

SUBJECT Preliminary Plans
Chehalem Cr.(Newberg) Section
Pacific Hwy. West No. 1W

The preliminary plans for this section of the Pacific Highway West were reviewed and no changes were recommended.

It is suggested, however, that after the project is completed, the left-turn refuge for the approach at Sta. 39 should be striped as a 14-foot lane and 16-foot median rather than 26-foot lane and a 4-foot median as shown on the plans.

TL:pb
Attachment

cc: C. O. Fredrickson
Frank Terpin

REFERRED TO

Beard Reed
Cole Sample
Eriksen Watson W
Heger Wolfe
Return Discuss Do File Copy Due
BY FINAL DESIGN ENGINEER

Show me.

1 ✓ ?
2 T

1975

CHEHALEM CR. (NEWBERG) SECTION PACIFIC HIGHWAY WEST YAMHILL COUNTY				SHEET No. 5
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS See Index
10	OREGON			

SPRR

"L" LINE

"LS" LINE

"L" 1°30' C.R.
Δ 6°59'
T 420.65'
2-375' Sp.
S 2°48'45" E
0.4

"LS" 4 R/W
1° C.R.
Δ 6°59'
T 549.66'
2-400' Sp.
S 2°00' E
0.25

T.3S., R.2W., W.M.

T.3S., R.3W., W.M.

Sec. 24 Sec. 19

St. Conn. 0+45
Access Rd. 10+00

"L" 0.2158

"LS" 0.3760

"LS" 2.4092

Ground Line @ "LS" ℄

Ground Line @ "L" ℄

Profile Grade @ "LS" ℄

"L" 600' V.C.

"LS" 600' V.C.

+0.57
18" Sewer Pipe

+1.22
18" Sewer Pipe

+1.74
18" Sewer Pipe

+4.0
Sewer Pipe

"L" 67.03'

"LS" 110.13'

END OF PROJECT STA.

Exc. 9709
Emb. 4390

Exc. 325
Emb. 250
Exc. 358

W - #8250

1W

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

November 13, 1974

FILE:

FROM: Adele L. Egan Adele L Egan
Right of Way Office Manager

SUBJECT: Files 40215, 40216, 40218, 40222 and 40446

TO: Mr. J. H. Versteeg
Road Design Engineer

B U I L D I N G

Chehalem Creek Sec.
Pacific Highway West
Yamhill County

Attn: Mr. Floyd Scott

G. W. Wimer, Region Construction Engineer, confirms requests that the following files be canceled:

File No.	Name	Area
40215	Houser, C. A. and Alice	1,395 sq. ft. + (Parcel 1) 280 sq. ft. + (Parcel 2)
40216	Ziegler, Charles J.	465 sq. ft. + (Parcel 1) 93 sq. ft. + (Parcel 2)
40218	Pinkerton, Thelma S.	500 sq. ft. (Parcel 1) 150 sq. ft. (Parcel 2)
40222	Noland, William A. and Irene	200 sq. ft. + (Parcel 1) 500 sq. ft. (Parcel 2)
40446	Snyder, Victor and Betty Lou	Parcel 1 930 square ft. Parcel 2 186 sq. ft.

File records
Cards
Maps

AE:nn
cc: C. O. Fredrickson
Rod Henry
Title
Appraisal
Frank Lowe
A. Riveness

NOTED
FLOYD O. SCOTT
11-14-74

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem 97310

DATE September 30, 1974

TO G. W. Wimer
Regional Construction Engineer

JOHN R. OAKES

FROM John R. Oakes
Assistant R/W Engineer

SUBJECT Chehalem Creek Section
Pacific Highway West
Yamhill County

When this project was first authorized for right-of-way purchase, it included several files on the east side of the railroad on the main highway in Newberg between Main Street and the railroad. Only a few of these files were purchased before the project was shut down pending a decision on the Newberg couplet.

We now have the following files open on this section and would like to have your authorization to cancel.

40215 - Houser
40216 - Ziegler
40218 - Nissen
40222 - Noland
40446 - Snyder

JRO:ha

cc Floyd Scott

1 - ✓
2 - ✓

8250

R

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE:

October 29, 1974

SUBJECT: Chehalem Creek Bridge
Pacific Highway West
Yamhill County

TO: E. S. Hunter
Assistant State Highway Engineer

Extensive studies have been undertaken to determine the amount of settlement that might be expected if the Chehalem Creek Bridge were to be constructed with a fill and a shorter structure.

There is attached a copy of Walt Hart's report on the cost of a full length structure vs a medium length structure and his indication that in order to place the fill in lifts over a six month period, then allowing it to settle for a year before final grading and paving, the necessary delay of up to two years before bridge construction could very well make the shorter structure as expensive as the longer one.

Mr. Hart's estimates as shown on the attached are for comparative distance. The total project would be increased approximately $1 million regardless of which structure was used.

It is the consensus of the Bridge Engineer, Design Engineer, Location Engineer and their staffs that we should plan to construct the full length structure for the reason stated.

Victor D. Wolfe
Location Engineer

10-30-74
ORIGINAL TO
Vic Wolfe
w/att.

Att.
VDW:mc
cc W. J. Hart
J. H. Versteeg

APPROVED
E. S. Hunter
Date 10-30-74

RECEIVED
OCT 30 1974
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

8250

R

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE: Br. 2054A

October 17, 1974
Salem, Oregon

ORIGINAL SIGNED
WALTER J. HART

FROM: Walter J. Hart
Bridge Engineer

TO: Mr. Victor Wolfe
Location Engineer

SUBJECT:
Chehalem Cr. Br.
Pacific Hwy.
Yamhill Co.

We have estimated the cost of a full length structure and a medium length structure plus fill for this location. The estimate is based on a 58-foot roadway width and a 8-foot walk on the west side as shown on the enclosed vicinity map Drawing No. 21716. These estimates are for structure and grading from Station 22+20 to 30+40 only.

Full Length Structure - 820'	$1,719,000
Earthwork	6,000
	$1,725,000

This structure would be founded on concrete piles and would minimize any problems due to the rather large settlements that are predicted for this site. There would be no delays in construction while waiting for embankment settlement and no additional load would be placed on the existing bridge. No general excavation or channel changes would be required.

Medium Length Structure - 420'	$ 887,000
*Earthwork, paving, curbs and walks	473,000
	$1,360,000

*Includes 60,000 yd. gen. @ $2
45,000 yd. borrow @ $5

This combination of embankment and structure is designed to keep the fill away from the existing structure as much as possible. There would still be large settlements under the fill adjacent to the southerly 400' of existing bridge requiring constant monitoring of the bridge during the 18-month fill settlement period.

The fill would be placed in lifts over a 6-month period and then allowed to settle for 1 year before final grading and paving. This could mean a delay of up to two years before bridge construction could begin with a subsequent rise in structure cost of 20% or more.

This plan would require extensive excavation and channel change and would have a considerable environmental impact on the site.

NOTED
E. S. HUNTER

OMP/ag
Encl.
cc E. S. Hunter
J. H. Versteeg

RECEIVED
OCT 21 1974
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

OREGON STATE HIGHWAY DIVISION

[redacted]

DATE [redacted]

TO [redacted]

FROM [redacted]

SUBJECT Shoulder widths on the
[redacted]

In line with our current policy of case-by-case analysis we are seriously considering reducing the shoulder widths on this project to the minimum. That being the case there will be no paved shoulder available for a bicycle path. Please advise if a bicycle path is here on this section, what type of path should it be and if it is your recommendation to widen the shoulders, can these costs be charged to the bicycle program.

Versteeg

I recommend that
we use 6' shoulders
there will be [redacted]
Discuss

JHV:jh

REFERRED TO

Cole		Reed	
Bricken		Sample	
Hagar		[redacted]	
Return	☐	Forward	☐
Discuss	☐	File	☐

BY FINAL DESIGN ENGINEER

FORM S-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE September 18, 1974

TO MEMORANDUM TO THE FILES

FROM D. N. Stoudenmeyer, Preliminary Design Supervisor

SUBJECT Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

We were asked to look at the subject section to determine if a left-turn refuge was necessary.

There are several accesses on this section, one of which will have heavy truck traffic, another a substantial left-turn. The main line will have sufficient projected traffic to fill four lanes. It would be advantageous to provide a continuous left-turn median through the area in order for the four through lanes to keep a smooth flow. Left turn provision is available on either end of this section.

If it is desirous to cut the section down to conserve funds, we would recommend a reduced shoulder to say two or three foot offset and possibly a median of 14 foot.

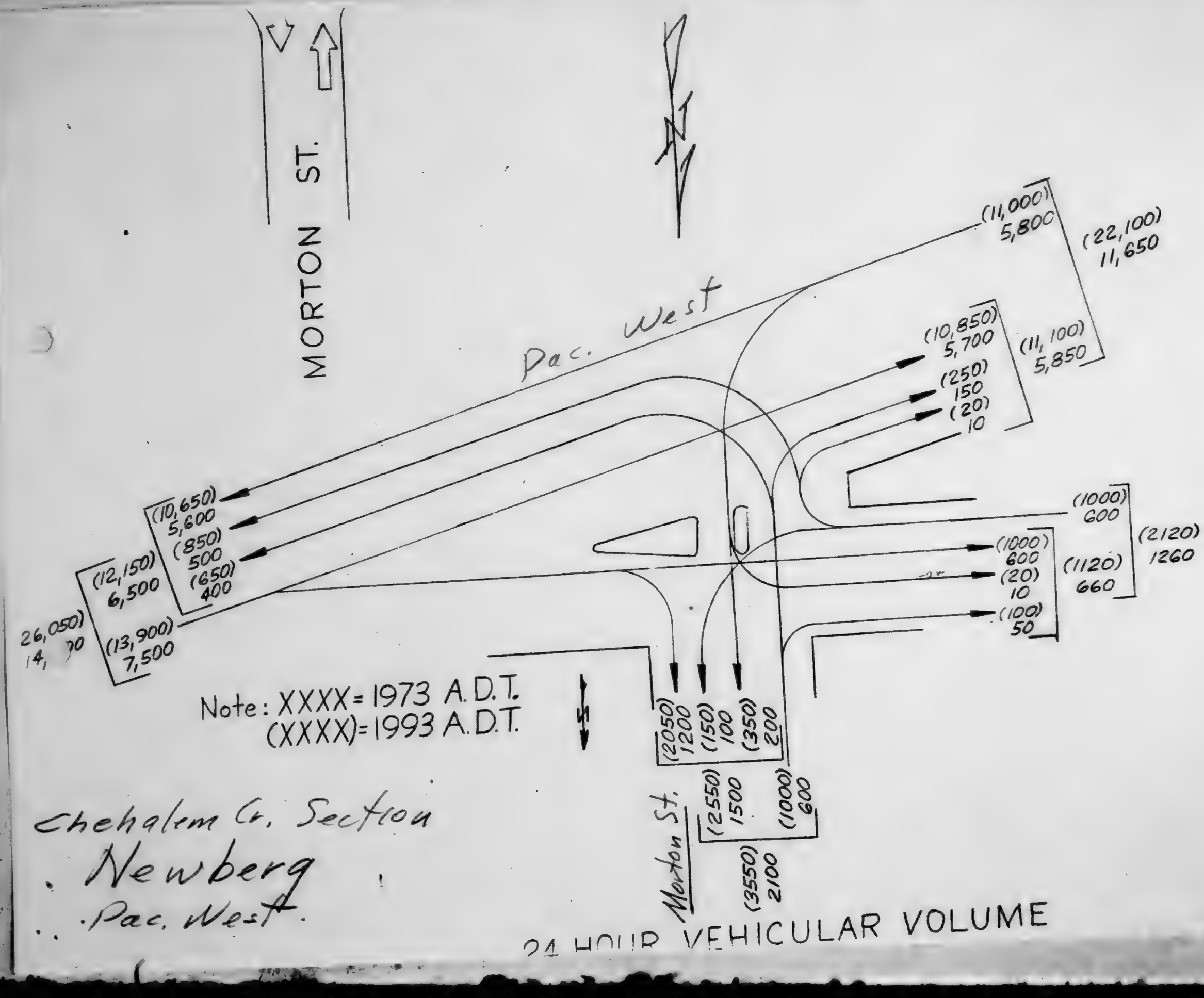
The old highway connection at Morton Street should be cut and a cul de sac constructed. Access to the area served by the old highway should be handled at the new proposed connection south of Morton Street.

DNS:we
cc: F. E. Terpin, w/map

/ Versteeg
A. Olson
Terpin
Scott
Swanson
R. Olson
Trout

RECEIVED
SEP 18 1974
ROAD DESIGN SECTION

Requires Reply
Requires Approval
Receiver Keep
Do not File
Return
Bring Up
Other


MORTON ST.
Pac. West
(11,000)
5,800
(22,100)
11,650
(10,850)
5,700
(11,100)
5,850
(250)
150
(20)
10
(10,650)
5,600
(850)
500
(650)
400
(12,150)
6,500
(26,050)
14,
(13,900)
7,500
(1000)
600
(2120)
1260
(1000)
600
(20)
10
(1120)
660
(100)
50
(2050)
1200
(150)
100
(350)
200
(12550)
1500
(1000)
600
(3550)
2100
Morton St.
Note: XXXX = 1973 A.D.T.
(XXXX) = 1993 A.D.T.
Chehalem Cr. Section
Newberg
Pac. West
24 HOUR VEHICULAR VOLUME

#8250 IW

Salem, Oregon

September 12, 1974

C. O. Fredrickson, Region II Engineer

P.E.T.

Frank E. Terpin, Final Design Engineer

Chehalem Creek Section
Pacific Highway West
Yamhill County

On the enclosed vicinity map are shown three proposed locations for the Harvey Creek channel change on the named section. At each location right of way or construction easements will be required. Would you have these locations reviewed and recommend one of them or an alternate. If location 1 or 3 or an alternate is chosen, alignment, levels and cross-sections will be required.

Additional information is required at the outlet end of the super spans: A traverse of the creek, levels and cross-sections of the existing creek at least 100 feet beyond the railroad trestle and the location of the bents of the railroad bridge approximately 50 feet each side of the existing channel.

LKW:we
Attachment
cc: C. T. Keasey
Lyle K. Watson

Vanteeg ✓
A. Olson
Terpin
Soon
Swenson
S. Olson
Trout

RECEIVED
SEP 12 1974
ROAD DESIGN SECTION

Requires Reply
Requires Approval
Receiver Keep
Do not File
Return To
Bring Up ___/___/___
Other

#8350

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

FILE: 36-1304

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

September 4, 1974

FROM: Gerald W. Wimer
REGION CONSTRUCTION ENGINEER

ORIGINAL SIGNED BY GERALD WIMER

SUBJECT: Chehalem Creek Section
Pacific Highway West

TO: Ed Paxton
RESIDENT ENGINEER

Attached is our recent file on the subject matter.

It indicates twin super spans are to be utilized. Preliminary indications indicate nearly 75,000 cubic yards of borrow will be needed.

You are hereby assigned to determine possible sources and recommend one. You should call on Region Geologist, Bill Fretwell and Region Right-of-way Supervisor, Rod Henry and if necessary, District Engineer, Floyd Lacey.

Your early attention would be appreciated as this project is tentatively on an October bid letting. If the site you select is not presently owned by the State, negotiations will be necessary as well as following the usual zoning variance procedures.

GWW/elk
Attach.
cc: Victor Wolfe
J. H. Versteeg
Bill Fretwell
Rod Henry

#8250

Salem, Oregon

August 29, 1974

J. R. Oakes, Assistant Right of Way Engineer

F.E.T.

Frank E. Terpin, Final Design Engineer

Chehalem Creek (Newberg) Section
Pacific Highway West
Yamhill County

It is requested that the Right of Way Section proceed to purchase the remaining two files, Nos. 40238 and 40239, on the named section. There will be no revisions to the files as originally written. This confirms the instructions to K. A. Chatwood this date.

LKW:we
cc: C. O. Fredrickson
Rod Henry
Lyle Watson

1 U

Warner
Anderson
Turnbull
Scott
Svenson
R. Olson
Trout

RECEIVED
AUG 29 1974
ROAD

Reply
Required Approval
Received
Do not
Return
Bring Up
Other

FORM E-20

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE August 29, 1974

TO MEMORANDUM TO THE FILES

FROM Kyle K. Watson
Kyle K. Watson, Design Team Leader

SUBJECT Chehalem Creek Section
Pacific Highway West
Yamhill County

NOTED
E. S. HUNTER

The original contract plans on the named section was for a two lane southbound and a 288 foot structure. The proposed construction will be a four lane section and two 28'-10" x 14'-5" super span structures. The existing structure has deteriorated over the years and will be removed. The Bridge Design Section has indicated approximately two months will be required to design the super spans.

There are two parcels of right of way that were not acquired for the original proposal. Mr. Rod Henry expects to have to condemn for these parcels. It is anticipated to require three to four months to clear the right of way. Also, three or four state-owned houses are being rented and adequate notice to renters to move will have to be given. It is anticipated that no additional right of way will be required.

Approximately two months will be required to finalize the road plans. The proposed four lane section is on revised alignment, grades, and typical section. There will be approximately 75,000 cubic yards of borrow required. The Region office has been notified that a borrow source is required.

This is a bond project and on the schedule for $400,000 on October 24, 1974. The revised construction costs are for $1,500,000. The recommended scheduling of this project would be January or February 1975.

LKW:we

cc: E. S. Hunter
W. J. Hart
Victor D. Wolfe
L. W. Rulien
J. B. Boyd
C. O. Fredrickson
Gary A. Potter
Rod J. Henry
C. G. Swenson

Use Estimate Reduced slds
4-12's - 4' median
6' Shlds.
EOH.

RECEIVED
AUG 29 1974
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER
NOTED
L. K. WATSON

#8250

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

August 16, 1974

FILE:

FROM:

SUBJECT: Chehalem Creek Section
Pacific Highway West
Yamhill County

TO: Mr. James H. Versteeg
Road Design Engineer

The subject project was located and plans prepared to four-lane this section which included using the present structure for northbound traffic. Deterioration has taken its toll and it is now desirable to replace this structure in the currently scheduled bond project.

Estimates attached indicate that the structure plan should be abandoned and twin super spans and embankments be used.

It is the recommendation of the Location Section that utilization of twin super spans be adopted and the plans revised accordingly.

Victor D. Wolfe
Location Engineer

Attachments
GCW:jp
cc W.J. Hart
C.O. Fredrickson
W.N. Hackleman

NOTED
L. K. W[illegible]

#8250

FORM 61-734-3030

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE

Salem, Oregon
August 16, 1974

REGION 2 ENGINEER
RECEIVED
AUG 19 1974
ULE GLE TA FILE

1W

FILE:

FROM:

SUBJECT: Chehalem Creek Section
Pacific Highway West
Yamhill County

TO: Mr. James H. Nersteeg
Road Design Engineer

The subject project was located and plans prepared to four-lane this section which included using the present structure for northbound traffic. Deterioration has taken its toll and it is now desirable to replace this structure in the currently scheduled bond project.

Estimates attached indicate that the structure plan should be abandoned and twin super spans and embankments be used.

It is the recommendation of the Location Section that utilization of twin super spans be adopted and the plans revised accordingly.

1 D
2 T

Victor D. Wolfe
Location Engineer

REFERRED TO

Cole		Reed	
Eriksen		Sample	
Heger		Watson	L.W.
Return	☐	Forward	☐
Discuss	☐	File	☐

BY FINAL DESIGN ENGINEER

Attachments
GCW:jp
cc W.J. Hart
C.O. Fredrickson
W.N. Hackleman

cc Hart
cc Hall
Fredrickson
Hackleman
Ellsworth

Ellsworth is after a R/W to see complete requirements for this project schedule. When might be available?

825

Salem, Oregon

August 13, 1974

John R. Oakes
Assistant R/W Engineer

L. W. Kalian
Project Management Engineer

Programing
Chehalem Creek Section
Pacific Highway West
Yamhill County

Bond Funds in the amount of $6,000 are authorized to purchase the above subject file.

In order to keep this section eligible for future Federal aid on construction, it will be necessary to document this purchase in accordance with PM 80-1-72 dated 7-23-72, "Protective Buying and Hardship Acquisition".

This is a fiscal year 1974 expenditure; if the expense overruns the estimate, please request additional authorization.

Prefix 36-2601 should be used for this expense.

CRW:bz
cc: Bill Wenner
C. P. Laux

FORM E-20

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem 97310

DATE August 9, 1974

TO L. W. Rulien
Project Management Engineer

FROM John R. Oakes
Assistant R/W Engineer

Bond funds
36-2601

SUBJECT PROGRAMING
Chehalem Creek Section
Pacific Highway West
Yamhill County

Under the project name of West Newberg-Chehalem Creek we received authorization to purchase the necessary right-of-way for this project in November, 1966, using prefix 36-2026. All the right-of-way with the exception of two files had been acquired on the westerly side of the railroad crossing, at the time that it was discovered a couplet was being considered within the city. At that time we discontinued acquisition.

Now under the name of the Chehalem Creek Section, this project is listed on the Bond program and shown on the schedule for October, 1974.

The remaining files are estimated at $6,000 and do not involve any relocation. Please authorize the use of bond funds for this project and provide us with a new prefix.

JRO:a
cc Victor D. Wolfe
M. R. Mitchell
Bob Poggione

Carl-OK R

RECEIVED
AUG 9 1974
PROJECT MANAGEMENT SECTION

#1450

1W

FORM E-30 (REV 10-69)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
March 15, 1974

To: MEMO TO FILES

SUBJECT: Chehalem Creek
Chehalem Creek Section
Pacific Highway West
Yamhill County
36-1426-

Chehalem Creek at the proposed crossing south of Newberg is subject to backwater from the Willamette River. As regulation on the Willamette has increased, the design water elevation at the proposed crossing has decreased. As an illustration, the 1961 vicinity map by resident engineer Ross Harris shows the 1956-57 highwater at elevation 111.0 feet, while the Corps of Engineers has estimated the Intermediate Regional Flood (IRF 100-year frequency) under existing regulation at elevation 107.6 feet. It should be noted that the 1956-57 highwater elevation was not the result of an unusual flood on the river.

Following is information for the 35-square-mile Chehalem Creek basin obtained from a Corps of Engineers publication "Flood Plain Information, Newberg, Oregon".

Frequency	Peak Discharge	HW at Mouth	HW at 99W Xing
SPF (1000 + year)	4,900 cfs	112.1	115.0
IRF (100-year)	3,200 cfs	100.3	107.6
50-year	2,800 cfs	97.0	
20-year	2,300 cfs	92.0	

Based on a discharge of 3,200 cfs (100-year flood), the flood gradient estimated by the Corps of Engineers at the proposed crossing is about 0.016 percent. This flat gradient verifies the presence of backwater.

RECOMMENDATIONS

Alternate No.1 - Three span bridge

Alternate No. 1 requires construction of a 25-foot bottom-width channel with 2:1 side slopes resulting in a bridge length of about 300 feet. Virtually no backwater is anticipated from this alternate. Flow velocities would be about 3 fps.

Alternate No.2 - Twin Super Span culverts

Alternate No. 2 requires construction of twin Super Span Ellipse culverts having the following dimensions: 28'10" x 17'5". The total length of the installation is estimated at 250 feet for a two-lane highway section. This alternate would result in a backwater of about 0.7 feet for a 100-year flood which would not cause adverse effects upon upstream properties because of the canyon depth. Outlet velocities for the super spans would be 4 fps.

CONCLUSIONS

Alternate No. 2 is suggested for economic reasons. Cost estimates for materials and installation of the twin Super Span structures is about $806 per foot which results in a price of $200,000 for a 250-foot installation. (Embankment and surfacing would be extra.) Estimates for the bridge are about $500,000. Poor foundation material should not be a problem since the Super Span Ellipse is a flexible pipe which will settle with the embankment without any adverse stress on the pipe. Camber can be included in the design to allow for differential settlement. Also the Super Span installation would lend itself to eventual four laning when the old trestle structure is removed. Cost would be minimal compared to the cost of an additional width of bridge.

Richard L. Lenz
Hydraulics Engineer

By
Stephen H. Macnab
Assistant Hydraulics Engineer

SHM:jp
cc: V.D. Wolfe
Walt Hart
J.H. Versteeg ✓
C.O. Fredrickson
Gary Potter

1 Versteeg
2 A. Olson
3 Terpin
Scott
Swenson
R. Olson
Trout

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MAR 18 1974
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up ___/___/___
Other

HYDRAULIC DATA

	Design Flood	Max. Flood yr (1964)
Discharge–c.f.s.	3,200 cfs	not available
Frequency-yrs	100 yrs	100+ yrs
H.W. Elevation Natural Channel	107.6 ft	* 111.0+ ft
H.W. Elevation Channel Change		
Velocity – f.p.s.	3 fps	3 fps

NOTE FOR CANAL :

"Design Flood" = Design Flow

"Discharge" = Capacity

* Estimated from observed highwater on river at peak of flood. No observed data available at crossing.

OREGON STATE HIGHWAY DIVISION
HYDRAULIC UNIT

CHEHALEM CREEK CROSSING
CHEHALEM CREEK SECTION
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

COMPILED BY	DATE
S.H. MACNAB	March 15, 1971

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NOV 16 1964
COMMISSIONERS

GLENN L. JACKSON, CHAIRMAN
MEDFORD
KENNETH N. FRIDLEY, MEMBER
WASCO
DAVID B. SIMPSON, MEMBER
PORTLAND

8250

STATE OF OREGON
STATE HIGHWAY DEPARTMENT
SALEM 97310

November 9, 1964

Mr. A. R. Compton
4004 N. E. 56th Street
Vancouver, Washington

Dear Sir:

In reply to the question posed at your recent visit to the Construction Division Office, we are unable to advise you as to when right-of-way acquisition will be started for the project across Chehalem Creek on Pacific Highway West near the southwesterly limits of Newberg.

This project has been surveyed but action to program money for construction has not been completed. We therefore are not able to give you a recommendation in regard to repairs on your motel and the water supply line which you have indicated is in need of repair.

We wish to thank you for your patience in these matters.

Very truly yours,

NOTED
LLOYD P. SHAW

Forrest Cooper
State Highway Engineer

By D. J. Barbee

D. J. Barbee
Ass't. Construction Engineer

GCW:ra

cc: L. P. Shaw

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NOV 9 1964
OFFICE OF
STATE HIGHWAY ENGINEER

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JUN 3 - 1964
FOR FILING
8250

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
June 1, 1964

To:

Mr. Lloyd P. Shaw
Assistant State Highway Engineer
Building

SUBJECT: Chehalem Creek Section
Pacific Highway West
Yamhill County

Some time ago you asked for the status of subject location--particularly in reference to a letter from John Jenkins to Mr. Porter in regard to alternate treatments at Chehalem Creek--bridge, box culverts or pipes.

During the location survey the various alternates were studied and, inasmuch as the existing 2-lane bridge (26-foot wide) was in very good condition, it was determined that the least expensive procedure would be to use the existing facility for two lanes northbound and build two new lanes southbound. It was determined that a bridge 260 feet long would suffice. (Existing structure is twenty-eight 29-foot spans, total length 812 feet.) Slopes from the fill paralleling the existing structure will not bother the existing structure providing foundation excavation and backfilling is carried on properly. (This was not set up in the survey.)

This should be reviewed for adequacy of quantities before scheduling the project, however, right of way set up appears to be adequate.

F. D. Morgan
Construction Engineer

By
A. D. Olson
Urban Engineer

ADO:jp

R. L. PORTER

NOTED
LLOYD P. SHAW

RECEIVED
JUN 1 1964
OFFICE OF
STATE HIGHWAY ENGINEER

RECEIVED
OCT 1 2 1964
FOR FILING

FORM E-20 REV. 12-63 84678

OREGON STATE HIGHWAY DEPARTMENT

INTER-DEPARTMENT CORRESPONDENCE

REFERRED TO

BY DEPUTY STATE ... AY ...

Salem, Oregon
March 17, 1964

SUBJECT: Chehalem Creek

To:

Mr. R. L. Porter
Deputy State Highway Engineer
B U I L D I N G

Chehalem Creek drains 38 square miles and produces an estimated 50-year flood of 5,000 cfs. The probable depth of flow at the crossing site would be 21 feet.

If pipes were used to handle this discharge, something on the order of three 20-foot diameter pipes, each 300 feet long, would be required. For one gage metal, these would cost about $280,000.

A bridge over a 40-foot channel would be an alternative. This would be about 260 feet long and would cost in the neighborhood of $240,000.

A three-barrelled 20 x 15 foot box culvert would cost about $220,000.

John C. Jenkins

John C. Jenkins
Assistant Research Engineer

JCJ:bbc

4-16
Bridge instructed to take up what has been established to date

4-21
Bridge advises that a new bridge ... traffic will be most economical due to cost of borrow material

8251 Winchester Int-Garden Valley 1975
Blvd Sec Pac Hwy N. of Roseburg
(Grad., pav., & sign.) [redacted]

Department of Transportation
HIGHWAY DIVISION
TRANSPORTATION BUILDING, SALEM, OREGON 97310

Victor Atiyeh

April 16, 1979

RECEIVED
STATE HWY ENGR
APR 24 '79
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

FROM: C. T. Keasey
Asst. State Highway Engineer

TO: G. L. Green, Division Administrator
Federal Highway Administration

SUBJECT: Computation of A.C. Price Adjustments
Ref. No. HFO-OR/520.3

Following is current status of seven projects referred to by your letter of March 30, 1979. You indicated final acceptance of these projects was being withheld for reasons related to the assessment of penalties for asphalt concrete incorporated in these projects:

FAP No.	Section	Contract No.
I-80N-7(44)306	S. Baker Int.-Pleasant Valley Int.	8058

The reduction in price for the non-spec. Class "E" mixture was covered by P.A. #13 and a copy sent to your office December 12, 1975. This was in accordance with our policy agreement at that time.

The reduction in price for the Class "C" mix was not based on the usual price assessment procedures, but on the estimated reduction in life of the mix. This became one of the items for which the contractor submitted a claim. The contractor's claim was finally denied in March, 1978, P.A. #15 processed and a copy sent to your office on May 12, 1978. The Materials Engineer's certification was received on October 6, 1978 and our request for project acceptance was sent to your office October 6, 1978.

It was believed that with the processing of P.A. #15 this project would meet with your acceptance. It was not our understanding a recomputed amount for P.A. #13 would be required. This has been done, however, and a copy sent to your office on April 4, 1979.

I-5-3(101)126	Winchester Int.-Garden Valley Blvd.	8251

The recomputed amounts for non-spec. A.C. mixtures was sent to your office on April 5, 1979. Acceptance was requested October 6, 1978.

I-5-2(81)77	Glendale Junction-N. Wolf Creek Int.	8190

The reduction in price on this project was computed in accordance with our

RECEIVED
APR 13 1979
DIVISION

Form 81-734-3122 (Rev 7-77)

March 1978 agreement. Therefore, there was not any difference in the recomputed amounts for the Class "B" or "C" mixture. The Class "E" A.C. was in substantial compliance with the specifications. An explanation was submitted to your office April 6, 1979. Acceptance had been requested August 27, 1978.

I-5-3(100)155 Anlauf Int.-Elkhead Road Int. 8184

The recomputed amounts was sent to your office April 9, 1979. Acceptance had been requested May 5, 1978.

I-5-2(80)100 Myrtle Creek-Canyonville 8146

Contract acceptance was first requested on March 2, 1977. At that time, your office notified us acceptance could not be made until all matters contained in the Final Inspection Report of February 16, 1977 were settled. Tom Lowe, Area Engineer, in that report recommended "that Federal participation be limited to an appropriate price reduction applied to the entire first days production. I concur in the price reduction already assessed for non-specification material subsequent to the first day of operation."

Other items, including guardrail and structure corrections and a suit by the Division of State Lands against the contractor and Norman B. Hess, a private landowner, were included in this report.

The second request for contract acceptance was made November 7, 1977. Acceptance effective November 11, 1977 was subject to crediting the project "for each day of production (including first day) when the majority of the material is non-specification."

November 16, 1977 a $909.01 reduction in price was recomputed in accordance with the stipulations contained in the Area Engineer's final report and request for contract acceptance. A copy of this reduction was not sent to your office, however, until May 5, 1978 upon Vince Tabor's request.

Project acceptance was requested April 26, 1978 following receipt of certification of materials from John Jenkins.

This was one of the three projects referred to in your letter of January 23, 1978 which started the series of meetings leading to our March 1978 letter of agreement.

We are willing to recompute the reduction in price in accordance with that agreement if you wish. This would substantially reduce the nonparticipating credit to the project.

JOP-95(3) Elk River-Port Orford 8325

Project acceptance was requested September 26, 1978. The recomputed reduction in price was made October 5, 1978 and a copy sent to your office. This adjustment is referred to in Tom Lowe's Final Acceptance Report dated October 4, 1978 along with his recommendation for acceptance.

F-10(1) Gold Fish Farm-Lebanon 8441

The recomputed amount was sent to your office April 9, 1979. Project acceptance was requested September 27, 1978.

Efforts are being made to have the price adjustments recomputed and your office notified on a more timely basis.

In the March 1978 agreement, we did agree to recompute the price adjustments on all projects awarded prior to December 1, 1977. We do not believe the intent was to go back an infinite period of time and recompute adjustments on projects where acceptance has been delayed because of contractors' claims or other reasons not related to the A.C. mixtures. Particularly where the Area Engineer had recommended approval of the reduction based on the usual price assessment procedures in accordance with the agreed policy at that time. Consideration should be given to establishing a cut-off date before which the recomputed adjustments would not be required.

CTK:MDG:fr

cc: H. S. Coulter
Bob Church
John Jenkins

#8271

☆U.S. GOVERNMENT PRINTING OFFICE: 1972 - 820

STATE COPY

cc: State (H. S. Coulter)
Washington, D.C. (HHO-32)

4-11-79

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FINAL ACCEPTANCE REPORT

REGION NO.	REPORT NO.	COUNTY	DIVISION
10	3	Douglas	Oregon
DATE OF REPORT	**REPORT MADE BY**		**PROJECT NO.**
4-11-79	Vincent Tabor, Asst. Area Engineer		I-5-3(101)126
COMPLETION DATE	**ACCEPTANCE DATE BY CONTRACT AGENCY**	**TIME ELAPSED**	**CONTRACT TIME**
9-15-76	1-5-78	100 %	300 contract work days
APPROVED EXTENSIONS	**LOCATION**		
None	Interstate 5, Winchester Interchange south to Roseburg - 4.14 mile section		

*The PR-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, has been submitted.
*A copy of the State's materials certificate is attached to the Division office copy of this report.
There is compliance with section 1.23 of the Regulations pertaining to encroachments on the right-of-way.

REMARKS: *The project has been completed in reasonably close conformity with the approved plans and specifications including authorized changes and extra work.*

WINCHESTER INTCHG.-GARDEN VALLEY BOULEVARD
Grading, Paving, & Signing

The project provided for safety upgrading of the subject section and AC overlay.

Original overall costs were estimated at $1,476,976 and final costs at $1,373,239 for an underrun of approximately 9 percent.

Price adjustments for non-specification AC have been calculated in accordance with our March, 1978 letter of agreement resulting in a $340.90 credit to Federal-aid participation.

All documentation has been received, and the project is considered satisfactory for final acceptance.

RECEIVED
STATE HWY ENGR
APR 16 '79
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

COPY SENT
APR 12 1979
Washington

*NOTE: Not applicable for direct federal projects.

ACCEPTANCE OF PROJECT IS RECOMMENDED		ACCEPTED BY FEDERAL HIGHWAY ADMINISTRATION	
SIGNATURE: Original Signed by T. P. LOWE		SIGNATURE: Original Signed By G. K. HOSSNER	
T. P. Lowe		G. K. Hossner	
TITLE: Area Engineer	DATE	TITLE: Field Operations Engineer	DATE: 4-12-79

FORM FHWA-1446 B (12-73) FORMERLY PR-33E

Previous Editions of PR-33E Will Not Be Used.

State

8251-10

FORM APPROVED RCS HNG-90-02
OMB NO. 04-R2274

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL HIGHWAY ADMINISTRATION

STATEMENT OF MATERIALS AND LABOR USED BY CONTRACTORS ON HIGHWAY CONSTRUCTION INVOLVING FEDERAL FUNDS

(PPM 20-2 and PPM 40-4)

CARD A1 — *To be completed by Washington Headquarters Personnel*

1	2–4	5–8	9–12	13–15	16–18	19–22	23–24	25–27	28–30	31–33

PART A *(To be completed by FHWA or State Highway Personnel (See instructions on reverse))*

CARD A

STATE	COUNTY	FEDERAL PROJECT NO.	URBAN (X) / RURAL ( )
Oregon	Douglas	I-5-3(101)126	

ITEM	DESCRIPTION	UNIT	ROADWAY QUANTITY	BRIDGE QUANTITY (Over 20 ft.)
	CONSTRUCTION TYPE CODES		6201	
20	FINAL CONSTRUCTION COST	DOL.	1,257,439	
21	LENGTH OF PROJECT	MILES	4.141	

DATE STARTED: July 17, 1975

DATE COMPLETED: September 15, 1976

TOTAL NO. BRIDGES: 0

PART B *(To be completed by contractor - See instructions on reverse)* *(REMARKS. Attach plain sheet of paper)*

CARD B

		TOTAL MAN HOURS	GROSS EARNINGS
30	LABOR	25,020	243,536

22	TOTAL COST OF ALL MATERIALS AND SUPPLIES	DOL.	470,113	
9	PETROLEUM PRODUCTS	GAL.	130,462	
1	CEMENT	BBL.	540	
2	AGGREGATES PURCHASED	TON.		
92		CU. YD.	450	
3	BITUMINOUS MATERIAL	GAL.	630,237	
4	LUMBER	THSD BD FT	21	
5	TIMBER PILING	LIN. FT.		
7	REINFORCING STEEL	LB.	62,187	
8	STRUCTURAL STEEL	LB.	6,950	
10	EXPLOSIVES	LB.		
11	READY-MIXED CONCRETE	CU. YD.	3,320	
12	PREMIXED BITUMINOUS PAVING MATERIALS	TON	15	
15	AGGREGATES PRODUCED	TON	48,811	
95		CU. YD.		
16	MISCELLANEOUS STEEL	LB.	4,200	
17	FENCING	LIN. FT.	6,980	
18	GUARDRAIL	LIN. FT.	19,872	
19	BRIDGE RAIL	LIN. FT.		
23	FINAL CONTRACT AMOUNT FOR SIGNS	DOL.	60,405	
24	FINAL CONTRACT AMOUNT FOR LIGHTING	DOL.		

CARD H — CULVERT ITEMS

ITEM	SIZE (In.)	LGTH. (Lin. ft.)
6	CORRUGATED STEEL CULVERT	

CARD J

ITEM		
13	CONCRETE PIPE	
	24	42
	36	44

CARD K

ITEM		
14	CLAY PIPE AND DRAIN TILE	

CARD L

ITEM		
25	CORR. ALUMINUM CULVERT	
	8	3487
	18	572
	24	136
	36	62
	48	88

CARD M

ITEM		
26	CAST IRON PIPE	

CARD G — *Blocks 48-70 to be completed by FHWA Washington Headquarters Personnel*

48–52	53–61	62–70

FORM PR- 47 PREVIOUS EDITIONS ARE OBSOLETE
(REV. 9-74)

INSTRUCTIONS FOR PREPARING AND TRANSMITTING FORM PR–47

GENERAL REQUIREMENTS

Form PR-47 should be transmitted for each highway construction project involving Federal funds except those that consist primarily of the installation of protective devices at railroad grade crossings, those that are constructed on a force account or direct labor basis, Federal-aid Secondary system, highway work under the direct supervision of the Federal Highway Administration, and highway beautification projects financed with 319(b) funds.

Form PR-47 should be transmitted with or in advance of the Final Report required by Federal-Aid Highway Program Manual Vol. 6; Ch. 4; Sec. 2; Sub. Sec. 8.

A separate form should be transmitted for each contract except that data for two or more contracts on the same project may be combined when such contracts are completed at approximately the same time. In case of a combination, the earliest starting date and the latest completion date should be reported. Where a single contract covers more than one project, one form may be prepared, for each project or for the entire contract provided none of the data are duplicated. A Form PR-47 should not be prepared for a contract covering only the purchase of material but the quantity of material should be reported when subsequently included in a construction project. In all cases, **only the original** of Form PR-47, typed or clearly lettered, and **no carbon or "fast" copies,** should be transmitted to the Washington Office.

If nonparticipating work is included in the contract, all data should be combined with the Federal-aid data in preparing the form. Data for any subcontract may be combined by the State or the division office with that for the prime contract if not so combined by the prime contractor. It will be the State's responsibility to see that all prime contract and subcontract costs, material, and man hours have been reported for each contract, and no duplication of data are involved. Quantities of State-furnished materials should be included with contract quantities, and costs of State-furnished materials should be added to Item 20 "Final Construction Cost" and also to Item 22 "Total Cost of All Materials and Supplies". **All quantities should be reported to the nearest whole unit and only in the units specified. All costs should be reported to the nearest dollar.**

Check urban or rural to indicate whether the major cost is for work within an urban area, or in a rural location.

All figures should be verified for reasonableness by State highway department and Federal Highway Administration division office engineers. The total material cost and the total man-hours and gross earnings should bear reasonable relationships to the contract construction amount. Also the quantity of each material reported should be reasonable with respect to the size and nature of the contract and with respect to the quantities of other materials. For example, if a large quantity of reinforcing steel is reported with no cement or ready-mixed concrete, an error of omission in reporting would be indicated.

Generally, the total cost of materials, supplies, and labor should be substantially less than the final construction cost, as the latter also includes costs of equipment ownership, overhead, and profit which are not required to be reported. If the final construction cost is less or only a few percent more than the total cost of materials, supplies and labor, the indication is that the contractor suffered a loss on the project or that there is an error in reporting. In such case, if it is determined that the figures reported are correct, a statement should be made on plain sheet of paper marked "Remarks" to the effect that the contractor actually did suffer a loss.

Part A - INFORMATION TO BE SUPPLIED BY FEDERAL HIGHWAY ADMINISTRATION OR STATE HIGHWAY PERSONNEL (FEDERAL-AID HIGHWAY PROGRAM MANUAL, VOL. 6; CH. 4; SEC. 1; SUB. SEC. 9).

"Final Construction Cost" - Show best estimate of Federal and State costs incurred to date for contract items, extra work performed by contractor, and State-furnished materials.

"Length of Project." - Report official roadway mileage and official bridge mileage.

Part B. - INFORMATION TO BE SUPPLIED BY CONTRACTOR IMMEDIATELY UPON COMPLETION OF CONTRACT

Specific Instructions for the Following Numbered Items:

Item 1 - Report number of barrels of cement used on project. Do not report here the cement included in Item 11.

Items 2 and 92 - Report quantity of aggregates purchased from commercial producers, such as sand, gravel, crushed stone, etc. Do not report here, aggregates included in Items 11 and 12. Aggregates produced by the contractor shall be reported as Item 15 or 95.

Item 3 - Report number of gallons of bitumens such as asphalt and tar. Do not report here, bituminous materials included in Item 12.

Item 4 - Report all lumber products purchased for and used on the project, including plywood and pressed wood, but excluding timber piling, lumber in fencing, guardrail, and signs, and lumber purchased for or used on previous projects and previously reported. The quantity of lumber should be reported as the number of **thousand board feet and not as the number of board feet.**

Item 5 - Report timber piling in linear feet, regardless of size.

Item 6 - Report, by size, regardless of class, type, gauge or coating, number of linear feet of corrugated steel pipe, structural plate pipe, pipe arches and arches.

Item 7 - Report total number of pounds of reinforcement for both structures and pavement. Include estimated quantities of reinforcing and prestressing steel in purchased precast units, except concrete pipe reinforcement.

Item 8 - Report total number of pounds of all structural steel, steel H-piling, and sheet piling.

Item 9 - Report total number of gallons of all gasoline, diesel oil, lubricating oil, and grease for equipment and trucks. For conversion purposes use factor of 8 pounds of grease per gallon.

Item 10 - Report total number of pounds of explosives, exclusive of caps and fuses.

Item 11 - Report total number of cubic yards of ready-mixed concrete plus estimated quantity of concrete in purchased precast units, excluding Item 13.

Item 12 - Report total number of tons of bituminous paving mixtures that are purchased in a prepared condition ready for placement as they reach the job

Item 13 - Report, by size, regardless of class, type, gauge or coating, total number of linear feet of plain and reinforced concrete drain and culvert pipe.

Item 14 - Report, by size, total number of linear feet of clay pipe and drain tile.

Items 15 and 95 - Report total quantity of aggregates such as sand, gravel, crushed stone, etc., produced by the contractor.

Item 16 - Report estimated total weight of steel products not appropriate for Items 6, 7, and 8, such as joint devices, tubular piling, etc.

Items 17, 18 and 19 - Report total lengths, in linear feet, of all types of fencing, guardrail and bridge rail.*

Item 22 - This should be the total cost, at the jobsite, of all construction materials and supplies purchased for and used on the project, including the cost of materials for signing and lighting and the cost of any materials and supplies not specifically listed hereon. Costs of equipment or equipment rental and the cost of operating the equipment, except the costs of fuel and lubricants, should not be included in this item. Small items of equipment such as jackhammers, handtools, repair parts, tires, etc., are not considered to be supplies. Costs of such items and also overhead costs should not be included. The amount included here for aggregates produced should be only the cost paid by the contractor for the aggregates and should not include the costs of excavating, processing, loading and hauling. Wages and man-hours for aggregates produced should, of course, be included with item 30

Item 23 - Report final contract amount for all types of signs including foundations, posts, structural supports, etc. Do not include traffic signals.*

Item 24 - Report final contract amount for highway and bridge lighting including foundations, conduits, standards, wiring, switches, luminaires, etc. Do not include traffic signals.*

Item 25 - Report, by size, number of linear feet of corrugated aluminum culvert.

Item 26 - Report, by size, number of linear feet of cast iron pipe.

Item 30 - Report total man-hours worked by, and earnings of all contractor's employees on the project, including those on operation and maintenance of equipment.

*Quantities of steel, concrete and lumber used in connection with Items 17, 18, 19, 23 and 24 should not be reported unless difficulties are encountered in segregating such quantities from total quantities.

FORM 81-734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

April 5, 1979

FILE: CON 5 #8251

FROM: M. D. Glenn
Quality Control Engineer

TO: MEMO TO FILE

SUBJECT: Winchester Int.-Garden Valley Int.
FAP No. I-5-3(101)126
Contract No. 8251
Recomputed Price Adjustment
For Non-Spec. A.C. Mixtures

The price adjustment for non-spec. Class "B" or "C" and Class "E" mixtures has been recomputed in accordance with our March 1978 agreement with the FHWA.

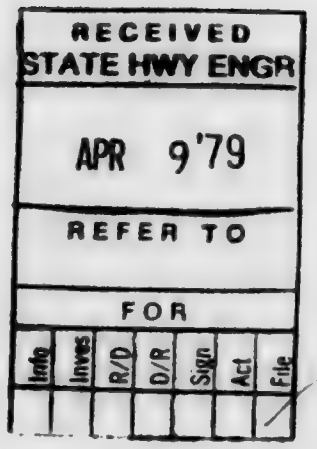
Bid Item	Amount P.A. #38 - Revised	Recomputed Amount
#15 - Class "B" or "C" Mixture	$3,816.40	$4,498.20
#16 - Class "E" Mixture	1,433.60	1,433.60
Total -	$5,250.00	$5,931.80

The difference in amounts is $681.80 for the Class "B" or "C" mixture. The recomputed amount for the Class "E" mixture is actually $1,288.80 which is less than the amount charged the contractor. The amount to be credited to the project on a nonparticipating basis is $340.90.

MDG:fr

Att.

cc: H. S. Coulter
FHWA/Att.
Alfred Shirley, Jr.
Curtis H. Duval
Bob Church/Att.
John Jenkins
Jim Kinns - Accounting
Test File



8251

8

ROBERT W. STRAUB
GOVERNOR

Department of Transportation
HIGHWAY DIVISION
TRANSPORTATION BUILDING, SALEM, OREGON 97310

May 8, 1978

RECEIVED
STATE HWY ENGR
MAY - 8 '78
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

S. D. Spencer & Son
P. O. Box 982
Roseburg, OR 97470

NOTED
H.G.COULTER

Attn: Otis Jordan

Re: 5-11 Contract No. 8251
Winchester-Garden Valley

Your claim for additional payment of $9,480.00 for placing temporary concrete barrier on the subject project has been carefully reviewed and is denied.

Section 104.05 of the contract Special Provisions states:

104.05 Maintenance of Traffic Through the Work - Maintenance of traffic through the work shall be performed in conformance with the standard specifications supplemented and/or modified as follows:

The contractor will be required to maintain two lanes of traffic in each direction through the project at all times except as follows:

1. When necessary one lane may be closed to traffic in the immediate area of the paving operation and median barrier construction but only during those hours when work is actually being performed.

Section 202.31 of the contract Special Provisions states:

202.31 Area of Work and General Requirements:

(a) Restrictions on removal work - Removal of existing median barrier in advance of construction of new concrete median barrier shall be held to the practical minimum with the understanding that the maximum length of existing metal median barrier which can be removed in advance of construction of concrete median barrier shall not exceed a distance equal to the length of concrete median barrier that the contractor will construct in one working shift.

During the hours when the contractor is not working in the median area, any openings in the median barrier shall be adequately protected by the temporary placement of concrete median barrier units. No separate or additional payment will be made for the temporary protection.

You were permitted a lane closure through the entire length of the special concrete median barrier construction and you were permitted to remove substantially more existing metal median barrier than could be replaced by the special concrete median barrier constructed in one working shift. These relaxations in contract requirements were permitted in order to provide increased safety to the public and to your workmen. At the same time these relaxations in contract requirements permitted you to construct the special concrete median barrier at a significant reduction in cost for Temporary Protection and Direction of Traffic and shoring and cribbing which would have been necessary to maintain two lanes of traffic in each direction.

We believe the specifications clearly define the placement of temporary concrete barrier to be a contractor responsibility.

Should you have further questions in this matter please contact the Resident Engineer or the Region Engineer.

C. T. Keasey
Construction Engineer

CTK:mk

cc: H. S. Coulter
Alfred Shirley
Curt Duval
Al Vohland

8251

Form 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, OR

December 30, 1977

FILE: CON 5 #8003
8046
8184
8189
8251
8208

RECEIVED
STATE HWY. ENGR.
JAN 3 '78
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

FROM: M. D. Glenn
Quality Control & Training Engr.

TO: THE FILES

SUBJECT: Winchester Int.-Garden Valley Blvd.
FAP # I-5-3(101)125
Contract No. 8251
FHWA Conditional Acceptance of Contract Work dated 12-14-77

FHWA acceptance of this project was subject to the condition that the difference between the actual penalty assessed contractor for nonspecification A.C. mixtures and the penalty as calculated with the majority stipulation should be credited to the project. This reflects FHWA position that A.C. mix penalties should be assessed for each day of production (including the first day) whenever the majority of material does not comply with specifications.

The reduction in price for the Class "C" and Class "E" mixes used on this project has been reviewed. In determining the $5,950 price adjustment on P.A. No. 38, consideration was given as to whether the majority of the materials produced each shift met specification requirements. This P.A. was subsequently revised August 23, 1977 to $5,250. This $700 reduction in the price adjustment was the result of the July 29 meeting with Otis P. Jordan and is detailed in Mr. Bond's August 11 letter to Alfred Shirley, Jr. The $700 was credited to the project as a nonparticipating item.

On December 28, 1977, I met with Tom Lowe and Vince Tabor of the Federal Highway Administration to review our findings. They concurred the reductions in price were made in accordance with the approved guidelines in effect at that time. The conditional statement placed upon the letter of request for contract acceptance was to insure that the $700 reduction in the price adjustment was credited to the project as a nonparticipating item.

I was informed at that time that a statement of conditional acceptance will be entered on the request of contract acceptance for each of the projects listed on Mr. Bond's August 11, 1977 letter to Alfred Shirley, Jr. There should be no further problems on these listed projects as long as the nonparticipating reductions in penalties can be readily identified by FHWA auditors.

MDG:mk

cc: H. S. Coulter/att.
Robert Church/att.
Alfred Shirley, Jr./att.
FHWA/att.

NOTED
H.S.COULTER

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE

.....Salem, Oregon.....
.....August 11, 1977.....

FILE: CON #5 #8046
8184
8189
8251
8208

FROM: John A. Bond
Construction Administration Engineer

TO: Alfred Shirley, Jr.
Region 3 Engineer

Attention: James Gix

SUBJECT: A.C. Penalties,
Contracts 8046,
8184
8189
8251
8208

S. D. Spencer & Son protested the A.C. penalties computed for the 1975 paving work on these contracts. (They were prime contractors on three of them and supplied A.C. to Kiewit on 8046 and to Workman on 8208.) Basis for the protest was the interpretations of guidelines for determining gradation spec. compliance.

As you know, we met with the contractor here on July 29 and reviewed the records. We agreed to a derivation of the 1975 penalties only, using daily averages of the tests made, rather than the actual quantities per test, contingent on Region concurrence. We understand the Resident Engineer in charge of the A.C. testing was using the daily average method in 1975 to control.

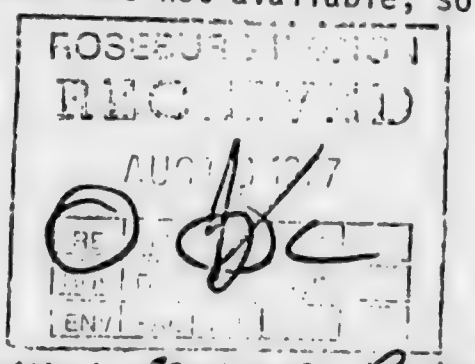
The penalties on these jobs would change as follows:

Contract No.	Project	Penalty as Calculated (A.C. Mix Portion Only)	Revised PA	Penalty using Daily Average	Difference
PA# 40-8046	Winston-Shady - $5,424.25	$ 4,900	2,424.25	$ 3,000	- $3000
PA# 22-8184	Anlauf-Elkhead - 8,043.50	7,430	3,245.95	2,600	- 4797.50
PA# 20-8189	Elkhead-Rice Hill 9207.64	8,600	1,251.85	470	- 7,957.64
PA# 38-8251	Winchester-Garden Valley $5,950	4,500	5,250 -	3,800	- 700
PA# 15 8208	Oakland Interchange $4,865.74	4,865	4,865.74	4,865	— 0
	(No change) All mix in 1976	$30,295		$14,735	
	Totals $33,491.13		$17,037.79		$16,453.39

If you concur, please prepare revised penalty price agreements on the four projects affected (using same P.A. numbers as originally) and re-submit to contractors for signatures. We expect the reductions in penalties to be nonparticipating.

It was further understood with the contractor that the A.C. penalty, if any, on Garden Valley-Fairgrounds, Contract 8003 would be derived in the same way as the subject jobs. Actual data was not available, so no specific amounts were arrived at.

JAB:fr
cc: Robert Church



NOTED: A. D. VOHLAND

cc: Al Bates
Vern Shill
Al [illegible] PLS prepare revised Penalty PA's
Al [illegible]

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

11-14-77

FEDERAL AID PROJECT NO.: 5-3(101)126

STATE PROJECT NO.: See below

COUNTY NAME: Douglas

PROGRAM STAGE (Check): [ ] 1. [ ] 2.

FROM:
G. L. Green, Division Administrator
Salem, Oregon

PROGRAM NO.:

ITEM NO.: I-817

TO:

Mr. F. B. Klaboe
Chief of Operations, ODOT
State of Oregon
Salem, Oregon

DATE PS & E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER / STATE ROUTE NUMBER
4-23-75	7-8-77	Interstate 5 / Primary 1

GENERAL LOCATION:

"Winchester Interchange - Garden Valley Blvd"

GENERAL DESCRIPTION OF WORK:

Patch Rough Joints in Finished Pavement by State Forces

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

- [ ] PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY
- [ ] PRLIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION
- [ ] OTHER (Specify)
- [ ] ACQUISITION OF RIGHT-OF-WAY
- [ ] CONTRUCTION - ADVERTISE FOR RECEIPT OF BIDS
- [X] CONSTRUCTION - PROCEED ON AN AGREED ~~XXXXXXX~~ PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

As requested in Mr. Keasey's letter of 9-14-77 and based on the data submitted, you are authorized to proceed with the use of State Forces as being in the public interest, under State Force Order No. 9 at a total estimated cost not to exceed $3,800, Federal Funds $3,505.

(See Price Agreement No. 39 approved 3-21-77 charging contractor for paving repair)

NOTED
F. B. KLABOE 11-17

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
11-14-77	G. K. Haseman	for Division Administrator

FORM PR-1240 (REV. 8-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

☆ U.S. GOVERNMENT PRINTING OFFICE: 1976—626-787

FORM 81-734-3001

OREGON STATE HIGHWAY DIVISION

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE SECTION

NAME OF JOB: Winchester Intch.-Garden Valley Blvd.	SECTION: Winchester Intch.-Garden Valley Blvd.	WEEK ENDING: March 26, 1977
		SECTION PREFIX: 610--1055
	HIGHWAY: Pacific	COUNTY: Douglas
	KIND OF WORK: Grading, Paving and Signing	
CONTRACTOR: S. D. Spencer & Son	CONTRACT NUMBER: 8251	FEDERAL AID PROJECT NUMBER: I-5-3(101)126
DATE OF CONTRACT: July 2, 1975	DATE WORK STARTED: July 17, 1975	ESTIMATED COMPLETION DATE: Sept. 15, 1976
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 0 SUPERVISION: 0	SPECIFIED WORK DAYS	WORK DAYS USED
	SPECIFIED CALENDAR DAYS 300	CALENDAR DAYS USED 300
PROJECT AUTHORIZATION: $1,476,976.13	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED: 100
EXCLUSIVE OF ENGINEERING: $1,370,262.45	ENGINEERING AUTHORIZATION $101,713.00	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $1,236,568.48	this week 79.13	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 91.2
ESTIMATED PERCENT: [redacted] UNDERRUN 8.8 %	ENGINEERING COST TO DATE $113,447.32	DATE PROJECT WAS COMPLETED: October 18, 1976
	PERCENT OF AUTHORIZATION 112 %	

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD		
			GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT							
MILES PARTIALLY COMPLETED							
MILES COMPLETED							
TOTAL ESTIMATED QUANTITIES (CONTRACT)							
TOTAL QUANTITIES CORRECTED TO DATE			23,691 cy	9216 cy	10	19,870 ft.	39,376 tons
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE							
AVERAGE DAILY QUANTITIES							
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME							
NUMBER OF SHIFTS PER DAY							
HOURS PER SHIFT							

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY 20	Fair	0		
MONDAY 21	Fair	0		
TUESDAY 22	Rain Showers	0		
WEDNESDAY 23	Rain Showers	0		
THURSDAY 24	Fair	0		
FRIDAY 25		0		
SATURDAY 26		0		

Routing
Keasey
Bond
Jackmond
Harwood
Johnsen
Walker
Richards
Glenn
Berg

RECEIVED
MAR 28 1977
CONSTRUCTION SECTION

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK	
SUNDAY 20	No work all week
MONDAY 21	
TUESDAY 22	
WEDNESDAY 23	
THURSDAY 24	
FRIDAY 25	
SATURDAY 26	No Activity anticipated.

REMARKS

STATUS OF WORK:
Project is complete except for State Force Order Work on Signing.
Post Semi-Final submitted to Region Office this week.

WORK ANTICIPATED:
Complete State Force Order Work when truck mounted auger can get to work site without rutting slopes of get stuck.

Final weekly Report this week.

SIGNED Curtis H. Duval LOCATION Roseburg
Curtis H. Duval

PRIME RESIDENT SUBMIT 2 COPIES WHEN BRIDGES AND GRADING BOTH ARE INVOLVED SUBMIT 3 COPIES

SP-F216

Form A-105—5-57

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS Order No. 8 Supplemental

Project Name Winchester Interchange-Garden Valley Blvd. Date February 25, 19 77

Highway Pacific Contract No. 8251 F. A. Project No. I-5-3(101)

County Douglas Prefix 610-1055 Account No.

Description of Work To Be Done: Relocate Logo Signs

OK 8/15/77

Location by Station Numbers: Southbound Lane Right 2400 to 2440

Estimate of Quantities and Costs:

Equipment	$140.00
Labor	450.00
Materials	510.00
Total	1100.00

Explanation: This work will eliminate conflicts between signs which were installed under two different contracts. Signs will also be rearranged into the proper sequence. These changes were recommended by the region traffic engineer.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$1,476,976.19
Present estimate of project cost, including $1,100 for work under this order	$1,341,496.92
Expected under-run ~~over-run~~ (amount)	$135,479.21
Expected under-run over-run (per cent)	10

Space to right of this line is for use of Salem Office

Submitted by: Curtis H. Duval Resident Engineer

Approval Recommended: Division Engineer

Approval Recommended: Construction Engineer or Bridge Engineer

Approved: 3-29-77 Deputy State Highway Engineer, Assistant State Highway Engineer or Office Engineer.

for Chief,

State Printing

Form A-103 (Rev. 6-70)

1-P

OREGON STATE HIGHWAY DIVISION

Order for State Force Work

Contract No. 8251

APPLYING TO CONTRACT PROJECTS

Order No. 6

Section Winchester Intch. — Garden Valley Blvd. Date September 15, 19 76

Highway Pacific F.A.P. No. I-5-3(101)126

County Douglas Prefix 610-1055 Account No. 220-06

Description of Work To Be Done:

Roadside Seeding and Mulching. This will include seeding and mulching the shoulder aggregate stockpile site, the access roads to and from the stockpile site, the mounds at the terminal end of shoulder barriers, and several other minor areas.

Location by Station Numbers:

Throughout project.

Estimate of Quantities and Costs:

3 Acres @ $400.00 = $1,200.00.

Explanation:

Contract time is elapsed at this time. The clean-up of the shoulder aggregate stockpile site is being done under Extra Work and it would probably require a time extension to have additional seeding and mulching done by the Contractor. Also, the Contractor's attitude toward performing this work is unfavorable.

INSTRUCTIONS

Submit a separate order for each piece or nd of state force work to be undertaken. se the account number applying to that rk as indicated in the account numbers as- ned to state force work on contract jobs. ive copies of the order are to be submitted Salem. After final approval, two copies l be sent to the Regional Engineer and one y to the Resident Engineer.

Project authorization	$1,476,976.13
Present estimate of project cost, including $1,200.00 for work under this order	$1,476,976.13
Expected under-run / over-run (amount)	$ -0-
Expected under-run / over-run (per cent)	-0-

Space to right of this line is for use of Salem Office

mitted by: Curtis H. Duval
Curtis H. Duval Resident Engineer

Approval Recommended: Regional Engineer

10-1-76

Approval Recommended: For: Construction Engineer or Bridge Engineer

Approved: Construction Engineer

cc: Dist 6 R+ EFJ

7

SP*72830-734

825

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved: O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 5-169		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Douglas
MODIFICATION NUMBER	5 .3 76 STATE COPY	Project Number 1-5-3(101)126

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17 , 19 75 , is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 1,438,128	$ 1,438,128
Federal funds	$ 1,327,104	$ 1,438,128
Other revisions		

This modification is made for the following reasons:
The Project Agreement executed 7/17, 1975 is modified to increase Federal-aid participation to 100 percent in accordance with PL 94-30. Such additional Federal Funds requested total $ 111,024."

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 13th day of May , 19 76 .

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By C S Hunter

Asst. State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
for: G. L. Green

Form PR-2A (Rev. 10-75) Previous editions are obsolete GPO 895-313

3457 State Copy R

TO BE COMPLETED BY FHWA	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O.M.B. No. 04-R2089
MONTHLY TRANSACTION NO. 7-36	1-17-7 **FEDERAL-AID PROJECT AGREEMENT**	STATE: Oregon COUNTY: Douglas PROJECT NO.: I-5-3(101)126 Safety

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

I-5, Winchester Int. S. to Roseburg

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION		
OTHER *(Specify)*	4-23-75	4.141

FUNDS Pro-rata 92.28%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 1,438,128	$ 1,327,104

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By Ed Hunter
Assistant State Highway Engineer
(Title)

By _____
(Title)

By _____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
G. L. Green *(Division Engineer)*

Date executed by Division Engineer _____

Form FR-2 (Rev. 9-74) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 301(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 11, 1975

Federal-aid Project
No. I-5-3(101)126 Safety

WINCHESTER INTERCHANGE-GARDEN VALLEY BLVD. SECTION
PACIFIC HIGHWAY
DOUGLAS COUNTY

Project agreement estimate.

Type Code 6201
Roadway Paving (Sta. 2273+93.95 to Sta. 2492+50)

Hauling and Placing Aggregate Shoulders	10,500 tons	2.50	$ 26,250.00
Class "B" or Class "C" Asphalt Concrete Mixture	39,700 ton	7.00	277,900.00
Class "E" Asphalt Concrete Mixture	10,700 tons	8.00	85,600.00
Asphalt Cement in Mixture	3,330 tons	80.00	266,400.00
Portland Cement Additive in Class "E" Mixture	110 tons	90.00	9,900.00
Asphalt in Tack Coat	50 tons	120.00	6,000.00
			$672,050.00

Anticipated Items

Permanent Pavement Striping (S.F.)	All Required		$ 2,000.00
Stage Construction Striping (S.F.)	All Required		2,000.00
Reshape & Topsoil Stockpile Area (E.W.)	All Required		1,000.00
State-Furnished Aggregate 10,500 tons @ $2.56	All Required		26,880.00
			$ 31,880.00
	Subtotal		703,930.00
	Engineering		70,393.00
	Total		$774,323.00

Type Code 6201
Roadway Safety (Sta. 2273+93.95 to Sta. 2492+50)

Furnishing Field Laboratory	1 only	1.00	$ 1.00
Mobilization	All Required		15,000.00
Temporary Protection and Direction of Traffic	All Required		35,000.00
Temporary Signs	830 sq.ft.	7.00	5,810.00
Temporary Barricades	26 only	100.00	2,600.00
Temporary Plastic Safety Markers	20 only	100.00	2,000.00
Flagmen	1,200 hours	15.00	18,000.00
Clearing and Grubbing	All Required		8,500.00
Removal of Structures and Obstructions	All Required		15,000.00

Embankment in Place	32,300 cu.yds.	1.80	$ 58,140.00
Trench Excavation	850 cu.yds.	15.00	12,750.00
Watering	420 M-gals.	6.50	2,730.00
Structure Excavation	530 cu.yds.	11.00	5,830.00
18-inch Culvert Pipe	170 lin.ft.	13.00	2,210.00
24-inch Culvert Pipe	200 lin.ft.	21.00	4,200.00
36-inch Culvert Pipe	60 lin.ft.	60.00	3,600.00
48-inch Culvert Pipe	80 lin.ft.	30.00	2,400.00
Concrete Inlets, Type Special	4 only	350.00	1,400.00
Concrete Inlets, Type G-2MA	2 only	960.00	1,920.00
Concrete Inlets, Type M-E	2 only	1,500.00	3,000.00
Concrete Inlets, Type M-0	2 only	1,600.00	3,200.00
8-inch Drain Pipe	1,555 lin.ft.	5.00	7,775.00
Special Filter Material in Drains	195 cu.yds.	14.00	2,730.00
CL-6 Chain Link Fence	4,990 lin.ft.	4.50	22,455.00
Concrete Barrier	19,980 lin.ft.	12.00	239,760.00
Concrete in Barrier	430 cu.yds.	140.00	60,200.00
Reinforcement in Barrier	27,800 lbs.	0.40	11,120.00
Paved Culvert End Slopes	570 sq.ft.	11.00	6,270.00
Loose Riprap, Class 100	500 cu.yds.	10.00	5,000.00
Grouted Riprap	100 cu.yds.	60.00	6,000.00
Guide Posts	120 only	12.00	1,440.00
Adjusting Inlets	2 only	350.00	700.00
Roadside Seeding and Mulching	12 acres	500.00	6,000.00

Signing

Removal of Existing Sign Installations	All Required		4,000.00
Painted Wood Sign Posts	All Required		2,500.00
Sign Support Footings	All Required		6,000.00
Breakaway Sign Posts	All Required		23,000.00
Structure Mounts	All Required		500.00
Exit Number Sign Supports	All Required		1,500.00
Type "A" Signs in Place	155 sq.ft.	18.00	2,790.00
Type "D" Signs in Place	76 sq.ft.	10.00	760.00
Move and Modify Existing Signs	All Required		3,600.00
			$617.391.00

Anticipated Items

Temporary Erosion Control (E.W.)	All Required		$ 5,000.00
On-the-Job Trainee (2 @ $800)(E.W.)	All Required		1,600.00
Special Median Barrier Connections (E.W.)	All Required		1,000.00
			$ 7,600.00
	Subtotal		$624,991.00
	Engineering		62,499.00
	Total		$687,490.00

Salvage Guard Rail, Posts & Blocks — All Required — $(23,685.00)

$663,805.00

Length of Project - - - - - 4.141 Miles

Cost of Roadway (Paving) Per Mile - - - - - - $186,989.37
Cost of Roadway (Safety) Per Mile - - - - - - $160,300.65

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway Paving	$ 774,323.00	$ 714,545.00	$ 59,778.00
Roadway Safety	663,805.00	612,559.00	51,246.00
	$1,438,128.00	$1,327,104.00	$111,024.00

Group 1 - 100%

Contract No. 8251

Prefix No. 610-1055

WINCHESTER INTERCHANGE-GARDEN VALLEY BLVD. SECTION

Nonparticipating-State Work

State Responsibility for Damages	All Required	$5,000.00

#8251

I-5

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

April 13, 1976

FILE:

FROM: Adele L. Egan
Right of Way Office Manager

TO: J. H. Versteeg
Road Design Engineer

B U I L D I N G

Attn: Floyd O. Scott

SUBJECT: Files 48916 thru 48919
Winchester-Garden Valley Rd.
Pacific Highway
Douglas County

Instead of securing an Easement, the State will remove the fence back to its right of way line. We are canceling the files.

File	Name	Area
48916	Richard D. & Sheila Galloway	320 square feet
48917	Bearden, William R. & Cleeora	75 "
48918	Brown, Eldridge E. & Irene	125 "
48919	Beamer, Goldie A.	121 "

AE:nn
cc: A. Shirley
Virgil Wilson
Title
Appraisal
Frank Lowe
A. Riveness

RECEIVED
APR 14 1976

8251

B

Form PR 7-14-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE:

Salem, OR

April 13, 1976

FROM: Warren Richards
Construction Office Engineer

TO: Mary Deits
Assistant Attorney General

SUBJECT: Off Site Fabrication
Concrete Barriers
4-10 Logging, Inc.
Contracts 8003, 8184, 8189, 8251

4-10 Logging, Inc. is furnishing concrete barriers to the subject projects in the Roseburg area. We have withheld funds on most of these projects due to the failure of the contractor to submit a subcontract and payrolls for this work or proof that the fabricator is a material supplier not subject to the wage rates listed in the contract special provisions.

The contractor, S. D. Spencer and Son, claims that the work is not covered by the contract wage rates as the fabricator is recognized as a supplier by a union labor agreement. The contractor, in a September 30, 1975 letter by Otis Jordon, also mentions sales to a Fairboard and individuals, availability of product to the public and prior business in supplying materials. The only proof supplied to substantiate the contractor's claim is a copy of the union labor agreement.

The contractor feels that the union recognition is satisfactory proof that the contract wages do not apply. This does not appear to agree with the Required Contract Provisions, All Federal-aid Construction Contracts which are included in each of the subject contracts. Section IV of those provisions refers to "wage rates not less than those contained in the wage determination ... which is attached hereto ... regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics ...". The union agreement provides for a lower wage than the contract wage determinations.

Please review the enclosed correspondence and agreement to see if you feel it is sufficient to establish that the fabricator is a materialman not subject to the contract wage rates. We would appreciate an early response as the contractor has threatened to take legal action to obtain the funds withheld which amounts to 10% of the value of the barriers.

The contractor alleges that we are in breach of the contracts by unjustly withholding the funds. They also have questioned the need for the withholdings as they have furnished a performance bond and we are already retaining five percent of the funds in the normal manner.

WR:mk

Attach: Labor agreement; Form PR-1273; Otis Jordon's letters dated 9/26/75, 9/30/75 & 3/15/76; J. X. Wilson letter of 3/19/76; Vern Shull's letters of 9/24/75 & 10/2/75; Warren Richard's letter of 9/18/75.

cc: H. S. Coulter
Jack Sollis
J. X. Wilson
Alfred Bates
Vern Shull
Curt Duval

RECEIVED
APR 13 1976
Office of
Assistant State Highway Engineer

NOTED
H.S.COULTER

8251

PRO 6-2

April 2, 1976

TO G. L. Green, Division Administrator
Federal Highway Administration

FROM L. W. Rulien
Project Management Engineer

SUBJECT Winchester Int.-Garden Valley Blvd. Sec.
Project No. I-5-3(101) 126; Item No. 817
Minor Program Change

We are requesting a minor program change to add to the "Character of Proposed Work", Right-of-way as an additional line item for this project.

Miles	Total Cost	Federal Funds	State Funds
0.09	$1,000	$928	$72

Attached are two copies of our right-of-way roll map to serve as the right-of-way plans for the purchase of a permanent fence easement on files 48916, 48917, 48918 and 48919. The easement is to cover a 10-inch wide parcel on the north end tapering to 0-inch on the south end of a 482-foot long fence line that was established 10 inches off line in the early 1960's.

We are requesting authorization to proceed with the right-of-way purchase in the amounts listed above.

DAR:md

Attachments

cc: John Oakes

#8251

1-5

Salem, Oregon
January 9, 1976

W. H. Sample
Final Design Supervisor

Curtis H. Duval
Resident Engineer

R/W Ties and Fence Location
Winchester-Garden Valley Blvd. Section
Pacific Highway
Douglas County
Contract No. 8251

Reference is made to your letter of December 30, 1975 on the above subject to Warren Richards, Construction Office Engineer, Salem.

Herewith you will find a print of a portion of R/W map 7B-7-10 with coordinates shown in red. These coordinates at iron pipes were copied from hard copy detail map 6F-8-11. Also, a centerline coordinate was shown at Sta. 2430 as computed by Floyd Scott's R/W description unit.

WHS:az
Attachment
cc: Warren Richards
Alfred Shirley

8251

1-5

FORM E-30 (REV. 10-60)

Routing
Keasey — Richards
Bond — Glenn
Jackmond — Berg
Harwood
Johnsen — CONSTRUCTION
Walker — SECTION

RECEIVED
JAN 5 1976

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Roseburg, Oregon
December 30, 1975

SUBJECT: Winchester-Garden Valley
610-1055
Contract No. 8251
Pacific Highway
Douglas County

To: Warren Richards
Construction Office Engineer
Salem, Oregon

Note 1815
M. 6F-8-11

Dear Sir;

We do not seem to be able to locate R/W ties from the R/W L on subject project.

We presently have a landowner adjecant to the project who questions the location of recently installed chain link fence left of Stations 2431 to 2435 + 50. We thought perhaps there might be some records in Salem that might help us in replacing R/W pins in this area.

Any assistance you could give us would be greatly appreciated.

Very truly yours,

Curtis H. Duval

Curtis H. Duval
Resident Engineer

cc: A. Shirley
file

1949 - 170 - 0224

RECEIVED
JAN 5 1976
ROAD

See letter 1-9-76 to Duval

#8251

I-5

Salem, Oregon
September 4, 1975

Frank E. Terpin
Final Design Engineer

Curtis H. Duval
Resident Engineer

Winchester Interchange-Garden Valley
Boulevard Section
Douglas County
Contract No. 8251

As per your request of August 20, 1975, we are enclosing the new sign support designs, weight of metal and cubic yards of concrete required for your proposed breakaway supports at the Winchester Interchange.

COT:we
Attachments
cc: C. T. Keasey
Alfred Shirley, Jr.

Versteeg
A. Olson
Terpin
Scott
Swenson
R. Olson
Trout

RECEIVED
SEP - 4 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up /
Other

8251

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

6-4-75

FEDERAL AID PROJECT NO.
-5-3(101)126

STATE PROJECT NO.
Winchester Interchange-Garden Valley Road

FROM:
G. L. Green, Division Engineer
Salem, Oregon

PROGRAM NO.

COUNTY NAME
Douglas

ITEM NO.
I-817

PROGRAM STAGE (Check)
[ ] 1. [X] 2.

TO:

Mr. F. B. Klaboe
Administrator & State Highway Engineer
Salem, Oregon
State of Oregon

RECEIVED STATE HWY ENGR
JUL 23 '75
REFER TO
FOR
Info
Inves
R/D
D/R
Sign
Act
File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER
April 23, 1975	June 4, 1975	Interstate Route 5

STATE ROUTE NUMBER
Pacific Highway Route 1

GENERAL LOCATION:
I-5, Winchester Interchange South to Roseburg

NOTED
E. S. HUNTER

GENERAL DESCRIPTION OF WORK:
Grade, drain, high type pavement, sign and guardrail

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

- [ ] PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY
- [ ] PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION
- [ ] OTHER (Specify)
- [ ] ACQUISITION OF RIGHT-OF-WAY
- [X] CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS
- [ ] CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

As requested in Mr. Rulien's June 2, 1975 letter revised PS&E documents have been reviewed and are approved.

A signed revised title sheet is returned herewith.

7-24-75
ORIGINAL TO
L. W. Rulien
w/att.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
6-4-75	C R Deuschardt for	Division Engineer

FORM PR-1240 (REV. 6-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

#8251

I-5

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

May 29, 1975

FILE:

FROM: Donald L. Trout
Design Office Engineer

TO: MEMORANDUM TO THE FILES

SUBJECT: Winchester Intchg.-Garden Valley Blvd. Section
Pacific Highway
Douglas County

A review of this project reveals there was a Negative Declaration prepared in July 1973 and approved by the FHWA in September 1973. This document states the purpose of the project is to move signs, modify slopes and guard-rails to meet current safety standards. Since then it was determined and approved by the FHWA that an overlay was necessary. This overlay is now part of the project.

The 1973 negative declaration did not address material sources. The project is now set up for the contractor to furnish his own source of paving aggregate. The shoulder material will be produced from Mt. Nebo and be stockpiled on this job for the contractor's use.

DLT:jh

cc: L. W. Rulien
Gary Potter

1 Versteeg ✓ DLT
A. Olson
Terpin
Scott
2 Swenson
R. Olson
Trout

RECEIVED
MAY 29 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up
Other

#8251

I-5

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE: CON 5

Roseburg, Oregon

May 20, 1975

FROM: J. X. WILSON
Regional Construction Engineer

TO: C. T. Keasey
Construction Engineer, Salem

SUBJECT: Winchester-Garden Valley Int. Sec.
Pacific Highway
Douglas County
610-1055

We have been unable to reach an acceptable lease agreement for a paving plant set up for the Winchester-Garden Valley section. Because of this, our recommendation is that the project be advertised without a prospective material source other than for the shoulder rock which is stockpiled at the Broad Street site.

JXW/dt

cc: A. W. Bates

cy: Hunter
Versteeg

1 Versteeg V
A. Olson
Copy Terpin
Scott
Copy Swenson
R. Olson
Copy Trout

RECEIVED
MAY 27 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File
Return To
Bring Up
Other

1 K
2
4
3

RECEIVED
MAY 22 1975
CONSTRUCTION SECTION

Scofield
Glenn
Berg

#8251

I-5

OREGON STATE HIGHWAY DIVISION

P.O. Box 1128
Roseburg, Oregon
May 14, 1975

Douglas County Planning Commission
Courthouse Annex #2, 205 SE Jackson
Roseburg, OR 97470

ATTN: Frank M. Nielsen,
Zoning Administrator

Dear Mr. Nielsen:

The Oregon State Highway Division hereby withdraws its application for a Temporary Use Permit for an asphaltic concrete hot plant between I-5 and Broad Street in Sec. 12, T27S, R6W, WM.

1 Copy
1 copy

Versteeg ✓
A. Olson
Tappin
Scott
Swenson
R. Olson
Trout

RECEIVED
MAY 19 1975
ROAD
DIVISION
SALEM, OR

Sincerely,

J.X. Wilson

J.X. Wilson,
Regional Construction Engineer

cc: JH. Versteeg
CT Reeves

8951

4-30-75

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.: I-5-3(101)126

STATE PROJECT NO.: Winchester Interchange-Garden Valley Blvd. Sec

COUNTY NAME: Douglas

PROGRAM STAGE (Check): ☐ 1. ☒ 2.

FROM: G. L. Green, Division Engineer, Salem, Oregon

PROGRAM NO.:

ITEM NO.: I 817

TO:

Mr. F. B. Klaboe
Administrator & State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED STATE HWY ENGR
MAY 5'75
REFER TO Rulien
FOR
Info | Invest | R/D | D/R | Sign | Act | File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
April 23, 1975	April 23, 1975	Interstate Route 5	Pacific Highway Route I

GENERAL LOCATION: I-5, Winchester Interchange south to Roseburg

GENERAL DESCRIPTION OF WORK: Grade, drain, high type pavement, sign and guardrail

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

☐ PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY

☐ PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION

☒ OTHER (Specify)

Permanent Pavement Striping	2,000
Stage Const.Striping	2,000
Reshape & Topsoil Stock-pile Area	1,000
State furnished aggregate	180,437
Temp.Erosion Control	5,000
On the Job Training	800
Special Median Barrier Connection	1,000

☐ ACQUISITION OF RIGHT-OF-WAY

☒ CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS

☐ CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

After concurrence in award you are authorized to proceed with items listed above as shown in your Estimate.

Mr. Rulien's April 21, 1975 request and certifying statements are accepted.

PS&E documents for the subject project have been reviewed and are approved.

A signed title sheet is returned herewith.

5-5-75 ORIGINAL TO L. W. Rulien
Wyatt.

RECEIVED MAY 5 1975 OFFICE OF ASSISTANT STATE HIGHWAY ENGINEER

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
4-30-75	C. E. Bernhardt	Division Engineer

FORM PR-1240 (REV. 6-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

8951

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

R

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem, OR 97308

SUBJECT: Oregon Project I-5-3(-)
Winchester-Garden Valley Section
Stockpiled Aggregate

DATE: April 24, 1975

In reply refer to: 1041EC.1

FROM : Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Based on the information furnished in Mr. Terpin's April 11 letter we concur in your proposal to procure and stockpile aggregate for the subject section from the Mt. Nebo cut on the adjacent section. We feel this proposal is in the public interest and not contrary to the court's injunction.

D.K. Hoover
for L. Green

cc: OSHD (Terpin)

NOTED
E. S. HUNTER
cc meeting
4-29-75

RECEIVED
STATE HWY ENGR
APR 28 '75
REFER TO
Hunter
FOR
Info | Inves. | R/D | D/R | Sign | | |

RECEIVED
APR 28 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

8257

Form FHWA 121 (Rev. 5-73)

R

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Box 300
Salem, OR 97308

SUBJECT: Oregon Project I-5-3(101)126
Winchester Interchange-Garden Valley Road
Salvage of Guardrail

DATE: April 24, 1975

In reply refer to: 1041EC.1

FROM : Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

As requested in Mr. Terpin's April 14 letter, we concur that it is in the public interest to salvage the excess guardrail from the subject section. We also concur that $0.06 per pound for metal rail and hardware, $1.05 per post, and $0.30 per block is a satisfactory credit allowance to the Federal-aid project for the actual amount of material salvaged from the above section and not reinstalled.

/s/ G. L. Green

cc: OSHD (Terpin)

NOTED
E. S. HUNT
Cc dictating
4-29-75

RECEIVED
STATE HWY ENGR
APR 28 '75
REFER TO
FOR
Info | Invest | Rpt | Ck | Sig

RECEIVED
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

Transaction No. 4-123

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS

(PPM 21-1)

STATE HIGHWAY DEPARTMENT: Oregon

DATE: 4-22-75

BY (Signature): L.W. Rulien's April 16, 1975 letter

TITLE: Project Management Engineer

CLASS OF FEDERAL FUNDS: ☒ FAI ☐ FAP ☐ FAU ☐ FAS ☐ OTHERS _____

STAGE 1 * ITEM NOS. _____ THRU _____

STAGE 2 ITEM NOS. 817 THRU _____

ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS
817	I-5-3(101)126	4.14	1,710,000	1,577,900

OTHER IDENTIFICATION AND/OR REMARKS (State)

NOTED
E. S. HUNTER

Location	Work
Winchester Interchange-Garden Valley Blvd. Section. Douglas County State of Oregon	Grade, drain, high type pavement, sign, and guardrail

RECEIVED
STATE HWY ENGR
APR 24 '75
REFER TO
Hunter
FOR
Info | Invest | Rpt | Sig | Ret

REMARKS (Division)

4-24-75
ORIGINAL TO
L.W. Rulien

RECEIVED
APR 24 1975
OFFICE OF
REGIONAL STATE HIGHWAY ENGINEER

RECOMMENDED DATE	RECOMMENDED SIGNATURE AND TITLE	APPROVED DATE	APPROVED SIGNATURE AND TITLE
		4-22-75	O.K. Burghardt for G. L. Green, Division Engineer

* Program approval and any authorization to proceed with a Stage 1 project shall not constitute any commitment of Federal funds nor shall it be construed as creating in any manner, any obligation on the part of the Federal Government to provide Federal funds for the undertaking.

GPO 915-680

4-22-75

8351

I-5

8251

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

April 18, 1975

FILE:

FROM: Lyle K. Watson
Design Team Supervisor

SUBJECT: Winchester-Garden Valley Blvd.
Pacific Highway
Douglas County

TO: MEMO TO THE FILES

The surfacing aggregates are to be produced by the E. S. Spencer Company on the Garden Valley-Fairgrounds project and stockpiled near the Broad Street structure right of Stations 2455 to 2467 within the right of way on the named section. These materials will be in place by June 1, 1975.

CPF 8003

The planning commission will meet on April 10, 1975 for the hearing on a conditional use permit for a paving plant set up and their decision to allow or deny the permit at this site will be made April 24, 1975. J. X. Wilson will notify the Design Section on Friday, April 25, 1975 by phone as to the decision.

The contractor on the named section will be allowed to construct accesses to the stockpile site from the southbound lanes with the approval of the engineer.

At the completion of the project, the contractor will be required to remove all excess aggregates left to a site determined by the engineer. The site will be cleaned up, graded and seeded and mulched. This clean up and regrading will be done by extra work. The costs of hauling and stockpiling the excess aggregates will be determined at the conclusion of the project.

The guard rail, median barrier, posts and blocks will remain the property of the State and stockpiled at the Brockway Maintenance Yard located three miles west of Winston on Brockway Road.

LKW:we
cc: E. S. Hunter
Alfred Shirley
C. G. Swenson
L. K. Watson

RECEIVED
APR 21 1975
ROAD DESIGN SECTION

8051

R

PRO-6-2

Robert W. Straub
[redacted]

April 16, 1975

TO Mr. G. L. Green, Oregon Division Engineer
Federal Highway Administration

FROM L. W. Rulien
Project Management Engineer

SUBJECT Program Data Submission
Project No. I-5-3(101)126

We are submitting program data for one project, Item No. 817, Project No. I-5-3(101)126, "Winchester Interchange-Garden Valley Blvd. Section", which we desire to have included in the Federal Aid Interstate Highway Program.

It is our present intention to receive bids for this project on May 22, 1975.

JG:ljt

Att.

Budget Bureau No. 41-R2067

U.S.

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO W.O.

FORM PR-1 (REV. 4-61)

April 16, 1975

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

CARD 2

REPORT NUMBER (19)(20)	PROJECT LOCATION (45 typewriter spaces) 21 65		PRESENT	FUTURE (66)	YEAR (70)(71)(72)	REGION	STATE NAME
1	I-5, Winchester Int., S. to Roseburg	ADT	15,600	27,100	95	10	Oregon

CARD 3

CHARACTER OF PROPOSED WORK (35 typewriter spaces) 25 62	NATL. FOREST (63)(68)	FH ROUTE NO. (69)(73)	SUPV AGCY (74)	DA CLASSIF. (75)	DA AREA (76)	EMERG. YR. (77)(78)	PL. AUTH YR (79)(80)	PROJECT NUMBER PREFIX LETTER(S) 14 23	NUMBER 7
Gr., Dr., H.T. Pave, Sign, G-rail.								I-	5-3

CARD 4

CLASS OF FEDERAL FUNDS: Interstate

COUNTY NAME: Douglas — CO 0 (1-3)

NAME OF URBAN AREA (17-31): Roseburg

ROUTE NO. I — FEDERAL-AID: I-5 (32) — STATE: 1 (36)(37) — U.S.: I-5

CARD 5

LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS (42)	WORK TYPE (43-46)	STEP (53)	TERMINI (Full description)	MILES (54)(58)	TOTAL ESTIMATED COST (59)(66)	FEDERAL FUNDS (67)(78)	STATE FUNDS	OTHER FUNDS
(1&15)	(16)	41									
5				PE		I-5, Winchester Int., S. to Roseburg					
5				ROW							
5				CONST (CODE) (Safety) 6201		"Winchester Int.-Garden Valley Blvd. Sect."	4.14	1,710,000	1,577,900	132,100	
							4.14	1,710,000	1,577,900	132,100	

CARD 1 — CODE 1 — PREPARED BY — PROJECT TOTALS

CARD 1 — 14 — PROGRAM APPROVAL DATES

REMARKS: Additional Data: Item 399, 500C, 59

Project Nos. I-5-3(33) (82), (86

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

FORM PR-1 (REV. 4-61)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

April 16, 1975

PROJECT LOCATION (45 typewriter spaces)		PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPR CODE	ITEM NO.
I-5, Winchester Int., S. to Roseburg	ADT	15,600	27,100	95	10	Oregon	41	042	

PROPOSED WORK (35 typewriter)	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.	POST MI. DESC.
Pave, Sign, G-rail.								I-	5-3	(101)	126

FUNDS: Interstate

COUNTY NAME: Douglas — CODE: 019

ROUTE NO. I — FEDERAL-AID: I-5 — STATE: 1 — U.S.: I-5

PROGRAM STAGE: 1 OR X 2

Roseburg

WORK TYPE	STEP	TERMINI (Full description)	MILES	ESTIMATED PROJECT COST: TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
PE		I-5, Winchester Int., S. to Roseburg						Gr., dr., & overlay, w/AC pave. 4-12'lanes w/10' R & 6' L shldrs & 8' min. median. Safety revisions of roadway slopes, signs, guardrail, median barrier, minor drainage strs. & other appurtenances. ROW - 250' normal; Access Control - full; Parking Restrictions - Complete
ROW								
CONST (CODE) (Safety) 6201		"Winchester Int.-Garden Valley Blvd. Sect."	4.14	1,710,000	1,577,900	132,100		
		PROJECT TOTALS	4.14	1,710,000	1,577,900	132,100		

PREPARED BY

FHWA APPROVAL DATES

REMARKS: Additional Data: Item Nos. 227, 300, 399, 500C, 591 & 737;

Project Nos. I-5-3(33), (50), (51), (67), (82), (86), & (92), respectively

(over)

USCOMM DUSCOMM-DC 41906-P61

WINCHESTER INTCHGE.-GARDEN VALLEY BLVD. SECTION
PROJECT NO. I-5-3(101)126

REMARKS: Cont'd.

PROJECT DATA: The work consists of (1) grade, drain and overlay with asphalt concrete pavement the existing facility consisting of fou foot lanes with 10-foot right shoulder and 6-foot normal left shoulders and 8-foot minimum median; (2) safety revisions to bring to pre Interstate Standards the roadway slopes, signs, guardrail, median barrier, minor drainage structures and other appurtenances.

IM 50-1-70 Requirements: Exempt from State Clearinghouse and District 6 Clearinghouse A-95 review under working agreements dated Apri 1970 and May 28, 1971, respectively.

FHPM 7-7-2 Requirements: Environmental negative declaration concurred in by FHWA September 21, 1973.

FHPM 7-7-5 Requirements: (a) Public Hearings - - Not required under provisions of par. 6c.
(b) Location/Design - - Not a factor in the development of this project.

NOTE: (1) On-the-job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at PS & E stage and t number stipulated in the PS & E documents.

(2) The project qualifies as a "Safety Improvement Project" under the provisions of FHPM 6-8-2.1 as the work, other than the overlay, is for the correction of roadside features identified as hazardous in the AASHTO report, "Highway Design and Operational Practices Related to Safety".

(3) This project is in Congressional District No. 4.

(4) Roseburg Municipal Airport lies westerly and parallel to the south end of this project.

(5) The necessary landscaping of this section to conceal the construction scars caused by this project will be done under a separate project or projects in the future as "stage construction".

Unusual Circumstances: State furnished aggregate material produced under Project I-5-3(95)124.

Data for PR-37:

Pavement (Type Code 6201) - - - - - - - - - - - - - - -	$1,220,000
Safety Revisions (Y codes 002, 007, 101, 106) - - -	490,000
Total Estimated Cost	$1,710,000

WINCHESTER INTCHGE.-GARDEN VALLEY BLVD. SECTION
PROJECT NO. I-5-3(101)126

RKS: Cont'd.

ECT DATA: The work consists of (1) grade, drain and overlay with asphalt concrete pavement the existing facility consisting of four 12- lanes with 10-foot right shoulder and 6-foot normal left shoulders and 8-foot minimum median; (2) safety revisions to bring to present rstate Standards the roadway slopes, signs, guardrail, median barrier, minor drainage structures and other appurtenances.

0-1-70 Requirements: Exempt from State Clearinghouse and District 6 Clearinghouse A-95 review under working agreements dated April 28, and May 28, 1971, respectively.

7-7-2 Requirements: Environmental negative declaration concurred in by FHWA September 21, 1973.

7-7-5 Requirements: (a) Public Hearings - - Not required under provisions of par. 6c.
(b) Location/Design - - Not a factor in the development of this project.

: (1) On-the-job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at PS & E stage and the number stipulated in the PS & E documents.

(2) The project qualifies as a "Safety Improvement Project" under the provisions of FHPM 6-8-2.1 as the work, other than the overlay, is for the correction of roadside features identified as hazardous in the AASHTO report, "Highway Design and Operational Practices Related to Safety".

(3) This project is in Congressional District No. 4.

(4) Roseburg Municipal Airport lies westerly and parallel to the south end of this project.

(5) The necessary landscaping of this section to conceal the construction scars caused by this project will be done under a separate project or projects in the future as "stage construction".

ual Circumstances: State furnished aggregate material produced under Project I-5-3(95)124.

for PR-37:

Pavement (Type Code 6201) - - - - - - - - - - - - - - -	$1,220,000
Safety Revisions (Y codes 002, 007, 101, 106) - - -	490,000
Total Estimated Cost	$1,710,000

#8251

I5

1 Versteeg
A. Olson
Terpin
Scott
Swenson
R. Olson
Trout

RECEIVED
APR 14 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up ___/___/___
Other

ROBERT W. STRAUB
XXXXXXXXXX

April 14, 1975

Mr. Glen L. Green
Division Engineer
Federal Highway Administration
P. O. Box 300
Salem, Oregon

Attention: Glenn Hossner

Dear Mr. Hossner:

Re: Winchester Int.-Garden Valley Blvd. Int. Section
Pacific Highway
Douglas County

There will be an excess of 43,500 linear feet of rail members and the accompanying hardware and posts from the subject project.

We believe it is in the public interest to salvage this material. By doing so a scarce commodity will not be wasted and it will be made available for use by the State.

We propose to handle the matter in the following manner:

We will specify that all median and guard rail members shall be salvaged and stockpiled in the Brockway Maintenance Yard located three miles west of Winston, Oregon, on Brockway Road.

The rail members shall be sorted with good rail members and damaged rail members should be placed in separate piles. All hardware not reinstalled on the project shall be separated and stockpiled at the maintenance yard as directed.

Wood posts and blocks shall remain the property of the State and be stockpiled in the maintenance yard as directed.

The scrap value of the rail members and hardware is $0.0175 per pound. The scrap value of wood posts is $1.00 each and of the wood blocks is $0.25 each. The extra cost of loading, hauling and sorting is $.0425 per pound for rail members and hardware, $.05 each for posts and $0.05 each for the blocks.

The project will initially be credited for:

343,000 lbs. @ $0.06/lb.	=	$20,580.00
2,300 posts @ $1.05 each	=	2,415.00
2,300 blocks @ $0.30 each	=	690.00
A TOTAL OF		$23,685.00

The credit to the project will be adjusted when the actual amount of material salvaged and delivered to the maintenance yard is determined.

We solicit your concurrence that it is in the public interest to salvage this material.

Very truly yours,

J. H. Versteeg
Road Design Engineer
By:

F.E.T.

Frank E. Terpin
Final Design Engineer

FET:jh

2251

R

OREGON STATE HIGHWAY DIVISION

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator of Highways

HIGHWAY BUILDING • SALEM, OREGON • 97310

April 11, 1975

NOTED
E. S. HUNTER

Mr. Glen Green
Division Engineer
Federal Highway Administration
P. O. Box 300
Salem, Oregon 97308

Re: Winchester-Garden Valley Section
Pacific Highway
Douglas County

Dear Mr. Green:

It is proposed that material from the Mt. Nebo cut on the Garden Valley Road Interchange-Fairgrounds Road Interchange Section be stockpiled for use by the contractor for the subject project.

This material is excess from that project and if not utilized constitutes a problem to dispose of in an environmentally acceptable manner.

The material is suitable for use as surfacing material. Utilization of it for this purpose will reduce the depletion of a natural resource were the materials to be disposed of in some other manner and another source used to furnish the materials for the subject project.

The site selected for the stockpiling is referred to as the Broad Street site. The site is on the right of way of the project just northerly of the Broad Street undercrossing on the west side of the highway.

Approximately 55,000 tons of paving aggregates and 11,000 tons of shoulder aggregate will be stockpiled there. After use the area will be cleaned up and seeded and mulched to remove the scar.

It is anticipated that a savings in the cost of the project will result by supplying the material in this manner. This saving is estimated to be $35,000 and results from the difference in haul from the nearest commercial source which is located near the Winchester Interchange.

RECEIVED
APR 11 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

We ask that you concur with our decision to provide surfacing materials for this project in this manner and grant approval to proceed with the proposal.

Very truly yours,

J. H. Versteeg
Road Design Engineer

By Frank E. Terpin

Frank E. Terpin
Final Design Engineer

FET:we
bc: E. S. Hunter
G. A. Potter
L. W. Rulien
C. T. Keasey
Alfred Shirley
C. G. Swenson
L. K. Watson

#8251

I-5

FORM E-20

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon 97310

DATE April 4, 1975

TO Memo to File

FROM Roger Trygstad
Traffic Control Engineer

SUBJECT Signing
Winchester Interchange -
Garden Valley Blvd. Section
Pacific Highway

Bill Sample of the Road Design Section called me regarding the signing on the subject Safety Project. He indicated that the signing to Garden Valley Blvd. all had the legend GARDEN VALLEY ROAD. He asked me if we should use BOULEVARD or ROAD in the legend.

I contacted Jim Gix in the Region Office who in turn contacted both the City and the County. Jim advised me that BOULEVARD would be the proper wording. I so advised Bill Sample.

RDT:rj
cc: Al Shirley
Hal Versteeg

RECEIVED

REFERRED TO
Beard WSB Read
Cole Sample
Eriksen Watson
Heger Wolfe
Return Discuss Do File Copy Due
BY FINAL DESIGN ENGINEER

#8251

I-5

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE: CON 5

Roseburg, Oregon

March 31, 1975

FROM: Alfred W. Bates,
Resident Engineer

SUBJECT: Winchester-Garden Valley Rd.
Pacific Highway
Douglas County

TO: Lyle K. Watson,
Design Team Supervisor

copy #8003

Herewith 3 sheets detailing the Broad Street stockpile site and temporary connections to the Pacific Highway.

Site preparation work to be done under Extra Work Order #12; material to be produced and stockpiled under Price Agreement #31, Garden Valley Rd.-Fairgrounds Intr., Contract #8003.

cc: Region

REFERRED TO

Beerd — Reed
Cole — Sample
Eriksen — (Watson) LW
Heger — Wolfe
(Return) Discuss Do File Copy Due
BY FINAL DESIGN ENGINEER.

Drawings retained in Designers files L.W.

Versteeg
A. Olson
Terpin
Scott
Swenson
R. Olson
Trout

RECEIVED
APR 2 - 1975
ROAD DESIGN SECTION

(APPROX)
N
1" = 100'

GARDEN VALLEY - FAIRGROUNDS

CONTRACT # 8003

BROAD ST STOCKPILE SITE

8' RCP CULVERT

MARSH

250' R/W

STOCK PILE BASELINE

L 2460 + 27

1½:1 SLOPES

¼ - 0 Acs

½ - ¼ Acs

20' Ht

16' Ht

14,034 cy

608 cy

7+00

6+00

5+00

4+00

2+00

1+00

0+00

99'

E.O. FOG

FOG

BROAD STREET

PACIFIC HIGHWAY

TEMP CONNECTION

TEMP CONNECTION

℄

½ - 1½:1 SLOPES

1' MIN

Acs

16' Ht

7470 cy

L 2465 + 91.15 PS a = .2

L 2467 + 99

L 2468 + 41.15 PSC D = 0

L 2469 + 02

BEGIN CONC BARRIER 47' PT

Begin Sta. Offset L 2469 + 60

GARDEN VALLEY-
FAIRGROUNDS.
PA #31

urg
360.6,8630.

N

1" = 100 (approx)

TEMP OFF RAMP

MULHOLLAND DR

(1269.31')

TEMP ON RAMP

TEMP OFF RAMP TO BE BUILT

17837

2475

2471'

EXISTING PACIFIC HIGHWAY

Deed RW 14611
227-944

RA

SITE

BRG. BD. 41.5 R.S.C.

STREET

2468+41.5 R.S.C.

33706

Deed RW 25356
332-895

RA

City of
Certified Title

2476+6 4.48 P.C.S.

ACCESS CONTROL LINE

250' Spiral
θ=0°8 1/2'
a=0.2

Over X-ing

0°30' C.R.
TΔ=5°22'
Ts=662.07
Lmc=823.33
R=11,459.16'

JARDEN VALLEY-
FAIRGROUNDS
PA # 31

TOPSOIL
AND
SHOULDER AGGRD
PILES

(105')

(381.05)

CONNECT & TRAFFIC CONTROL
WHEN STOCKPILES BEING WORKED

2450

N

1" = 10
(approx)

South Line Joseph Lane D.L.C. #

125

(S. 89°57'E. 11

2455

160'

TOPSOIL

SHOULDER
AGGREGATE

Fc. Cor.

CHANGED

381.05

CHANNEL
CHANGED

125

160'

250'

160'

Proposed

Fc. Cor.

SECTION

Spring Up

Other

#8251

I-5

Salem, Oregon
March 27, 1975

F.E.T.

Frank E. Terpin
Final Design Engineer

Alfred Shirley Jr.
Region III Engineer

Cross-sections
Winchester Int.-Garden Valley Rd.
Pacific Highway
Douglas County

The above-named safety project is currently scheduled for bid opening on May 8, 1975.

In order to complete the signing portion of this project we would appreciate cross-sections at the locations indicated. The existing sign locations are shown first in parentheses and the new location shown next.

(2292+30 Lt.)	2292+15 Lt.	Winchester, Wilbur Right Lane
(2292+85 Rt.)	2292+90 Rt.	N. Umpqua River
(2309+00 Lt.)	2308+90 Lt.	N. Umpqua River
(2320+00 Rt.)	2320+15 Rt.	Roseburg 5, Grants Pass 73
(2322+00 Lt.)	2321+85 Lt.	Amacher Park, etc. Next Right
(2332+00 Lt.)	2331+85 Lt.	Winchester, Wilbur Exit 1 Mile
(2412+00 Rt.)	2412+15 Rt.	Roseburg Next 2 Exits
(2438+70 Rt.)	2438+85 Rt.	Roseburg, Garden Valley Rd., Exit 1 Mile
(2450+00 Lt.)	2449+85 Lt.	Sutherlin 12, Portland 175
(2465+00 Rt.)	2465+15 Rt.	D.M.V., State Police, etc. Next Right
(2487+50 Rt.)	2487+65 Rt.	Roseburg, Garden Valley Rd. with arrow
(2502+50 Rt.)	2502+65 Rt.	Entering Roseburg
(2504+50 Lt.)	2504+35 Lt.	Leaving Roseburg

We would appreciate these cross-sections be taken from the fog line out to 65 feet where there is no guard rail and out to 40 feet where there is guard rail.

Due to the close proximity of the bid opening date we would appreciate receiving these cross-sections at your earliest possible convenience.

WGB:we
cc: C. T. Keasey
W. G. Beard

Versteeg
A. Olson
Terpin
Scott
Swenson
R. Olson
Trout

RECEIVED
MAR 27 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To _____
Bring Up ___/___/___
Other _____

#2251

I-5

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

March 17, 1975

FILE:

FROM: Lyle K. Watson
Design Team Supervisor

TO: MEMORANDUM TO THE FILES

SUBJECT: Winchester-Garden Valley
Pacific Highway
Douglas County

Received the following information from J. X. Wilson on the named section:

Full depth paving will be required at the ends of the Winchester Bridges over the Umpqua River.

The slopes in the cut Station 2383+00± to Station 2397+50± should be flattened or widen the cut for the necessary borrow excavation.

The existing concrete shoulder barrier and guard rail at the Airport Road undercrossing was poured in place on a previous spot safety project. This will be removed and replaced with new concrete shoulder barrier of current design and to match the overlay of the existing pavement.

The existing illumination, signs and column protection should be revised at the Garden Valley Interchange.

This field data will be obtained by the Region. Final Design will prepare plans and submit to Region to be added to the present Garden Valley-Fairgrounds Road contract.

The State does not have a prospective material source available.

Please obtain the height of concrete bases of illumination standards above the ground and recommendations of standards that should be removed.

LKW:we
cc: Alfred Shirley
R. W. Ellison
L. L. Wallace
C. G. Swenson

Vorstrup
Scott
Swenson
R. Olson
Trout

RECEIVED
MAR 18 1975
ROAD DESIGN SECTION

Return to
Other

#8251

I-5

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

March 11, 1975

FILE:

FROM: Lyle K. Watson
Design Team Supervisor

SUBJECT: Winchester-Garden Valley Road
Pacific Highway
Douglas County

TO: MEMORANDUM TO THE FILES

Requested a source from J. X. Wilson for 30,000 cubic yards of borrow on the named section.

Also, requested from him a recommendation as to pavement requirements at the North Umpqua River structures.

Region to review and make recommendations for any additional construction and safety items for the development of plans for the Garden Valley Interchange.

REFERRED TO

Board — Reed
Cole — Sample
Erikson — Watson
Hager — Wiche
Return Discuss Do Routine by Due
BY FINAL DESIGN ENGINEER

LKW:we
cc: Alfred Shirley
Gary A. Potter
C. G. Swenson

RECEIVED

SECTION

Cont to Bridge

8251

FORM 41-714 3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

March 10, 1976

RECEIVED
MAR 11 1975
CONSTRUCTION SECTION

Sealed
Glenn
Berg
Jackmond
Harwood
Johnson
Walker

FILE: 5

FROM: Frank E. Terpin
Final Design Engineer

TO: Alfred Shirley Jr.
Region III Engineer

SUBJECT: Winchester Int.-Garden Valley Rd.
Pacific Highway
Douglas County

The end of the project on the named section will be Station 2492+50. This will avoid conflicts between two contractors working in the Garden Valley Road Interchange area and relieve congestion at the Harvard Interchange.

The contract on the Garden Valley Road-Fairgrounds Road Section should be extended back to Station 2492+50. The asphalt concrete overlay will be two inches southbound, three inches northbound and a one inch Class "E" open graded mix seal.

You should begin taking whatever action is required to accomplish adding the additional length to the project.

We will prepare plans and furnish them when they are completed.

RECEIVED
MAR 12 1975

LKW:we
cc: E. S. Hunter
L. W. Rulien
C. T. Keasey
G. A. Potter
C. G. Swenson
L. K. Watson

3-11-75
Bud Shirley
Negotiate P.A. with Spencer to extend G.V. Interch.- Fairgrounds project northerly to new limits indicated.

NOTED
H.S. COULTER

cc: H.S. Coulter

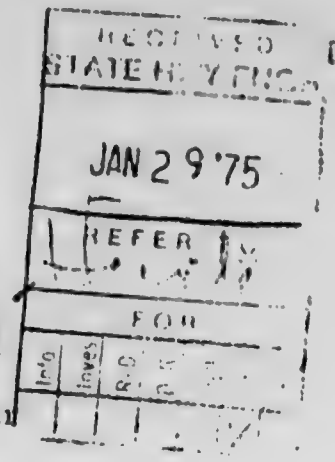
8251

Form FHWA 121 (Rev. 5-73)

R

UNITED STATES GOVERNMENT

Memorandum



DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: January 28, 1975

In reply refer to: 1041BR/407.2

SUBJECT: Oregon I-5 Bridge Clearances

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

ATTN: Mr. E. S. Hunter, Asst State Highway Engineer

We have reviewed the following information submitted by Mr. Hunter on raising the bridges listed below with Interstate funds:

Mr. Hunter's Letter on Structure Modification Report	Section
12-19-74	Elkhead Road - Rice Hill Sec. Pleasant Valley Rd Uxing Yoncalla Jct Uxing, Hwy 236 Farm Rd Uxing (equipment pass)
12-27-74	Winchester Int. - Garden Valley Rd Sec. Winchester Rd. Broad St. (Airport Rd) Garden Valley
1-8-75	N. Oakland Jct - Sutherlin Sec. Manning Rd Uxing Green Valley Rd (cemetary)

Our review shows that all clearances within the traveled way are greater than 14' with the added overlays. Supporting information does not indicate structurally damaging hits or excessive maintenance cost. Any additional Interstate funding is not available for such work. We therefore cannot approve Interstate funds for raising these structures.

G. L. Green

cc:
OSHD (W. Hart)
Region (10BR) w/ OSHD Report
on Elkhead & Winchester

December 27, 1974

Mr. G. L. Green, Division Engineer
Federal Highway Administration
Post Office Box 300
Salem, Oregon 97308

Dear Mr. Green:

Structure Modification Report
Winchester Interchange-Garden
Valley Road Section
Interstate 5, Douglas County

Our structure modification report on the subject section of Interstate 5 is enclosed.

We request your concurrence with our recommendation to raise the Winchester Road, Broad Street (Airport Road), and Garden Valley Road undercrossing structures to provide a vertical clearance of 17 feet in connection with the proposed overlay project.

This request will be discussed with you Monday, December 30, 1974.

Very truly yours,

E. S. Hunter
Assistant State Highway Engineer

Enclosure

bc F. B. Klaboe
A. E. Johnson
V. D. Wolfe
W. J. Hart
J. H. Versteeg
Alfred Shirley

WAE:jp: ab

OREGON DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY DIVISION

STRUCTURE MODIFICATION REPORT

WINCHESTER INTERCHANGE-GARDEN VALLEY ROAD SECTION

INTERSTATE 5

DOUGLAS COUNTY

F. B. Klaboe
Administrator and State Highway Engineer

Victor D. Wolfe
Location Engineer

December 1974

CONCLUSIONS

Three undercrossings on the Winchester Interchange-Garden Valley Road Section of Interstate 5 will have vertical clearances, after the overlay, that will further increase the probability of structural damage from collisions by trucks and other motor vehicles.

The proposed safety improvement project includes a 3-inch AC overlay plus 1 inch of open graded seal on the northbound lanes and a 2-inch AC overlay plus 1 inch of open graded seal on the southbound lanes (total overlay thickness 4 inches northbound, 3 inches southbound). The existing pavement is all AC. Adequate clearance for the structures can be obtained either by raising the structures or by lowering the roadway. Raising the structures is the least expensive of the two alternatives.

It is realized that State law limits the height of vehicles to 13-1/2 feet (special permits grant up to 14 feet) with the height determined while the vehicle is stationary, and that one hundred percent enforcement is virtually impossible. It is conceivable that collision damage on the structures is the result of "bootleg" vehicles. It is recognized nationally that even with mandatory tiedowns on overheight equipment (booms, et cetera), loads do bounce. These factors, among others, make it difficult to enforce the law unless the damage to the structure is witnessed by a credible person so that the offender can be apprehended.

RECOMMENDATIONS

It is recommended that a vertical clearance of 17 feet above the roadway be provided by raising the following structures on the Winchester Interchange-Garden Valley Road Section of Interstate 5 as part of the proposed safety improvements, at the estimated costs indicated:

Structure	Estimated Cost
Winchester Road Undercrossing	$ 150,000
Broad Street (Airport Road) Undercrossing	150,000
Garden Valley Road Undercrossing	150,000
Total	$ 450,000

VERTICAL CLEARANCE AND DAMAGE TO STRUCTURES

Studies of damage to structures caused by collisions from motor vehicles indicate that a minimum 16'6" vertical clearance is necessary to prevent serious cumulative damage to the structure. Detailed information can be found in the three-volume report, "A Study of Damage to Undercrossing Structures on Interstate 5, California to Hayesville Interchange" (November 1973) prepared by the Location Section, Oregon State Highway Division.

On the Winchester Interchange-Garden Valley Road Section there are three structures with vertical clearances that are considered inadequate. In order to determine the best course of action for structural modification to provide an adequate clearance after completion of the overlay project (4-inch asphaltic concrete overlay is approved on northbound lanes and 3-inch overlay on southbound lanes throughout the length of the project, including 1 inch of open graded seal), the vertical clearances of the structures were considered. These are shown in the following tabulation:

Structure	MP	Original Design Clearance	Existing Clearance (Minimum)	Clearance After Overlay
Winchester Rd. Uxing #7632	129.22	15' 1" (minimum)	15' 6" NB 15' 1" SB	15' 2" NB 14'10" SB
Broad Street (Airport Rd) Uxing #7666	125.72	15' 3" (minimum)	14' 3" NB 15' 5" SB	13'11" NB 15' 2" SB
Garden Valley Rd. Uxing #7667	125.08	15' 1" (minimum)	14' 3" NB 14' 3" SB	13'11" NB 14'00" SB

Only the alternative of raising the structure in each case was considered. We have determined that the average cost for raising a structure is $150,000 and that of lowering the grade of the freeway below an undercrossing when AC pavement is involved averages some $400,000.

A discussion of each structure follows, together with the recommended action.

Winchester Road Undercrossing, Structure #7632, MP 129.22

After the overlay, the minimum vertical clearance would be 15'2" over the northbound lanes and 14'10" over the southbound lanes. Our structural damage study of the Interstate 5 undercrossings shows numerous chipped areas and a patched area on the north girder as well as brush marks on the interior girders. It is recommended that the structure be raised to provide a minimum vertical clearance of 17 feet after the overlay, since the cost for lowering the grade would be more than double this cost.

Broad Street (Airport Road) Undercrossing, Structure #7666, MP 125.72

This structure already has a substandard minimum clearance of 14'3" over the northbound lanes with a normal clearance of 15'5" over the southbound lanes. After the overlay the clearance over the northbound lanes would be reduced to 13'11" and that over the southbound lanes to 15'2". The structure damage study showed evidence of about ten hits on the south girder over the northbound lanes. It is recommended that the structure be raised to provide a minimum vertical clearance of 17 feet after the overlay. Lowering the grade was not considered for the reasons cited above.

Garden Valley Road Undercrossing, Structure #7667, MP 125.08

This structure already has substandard clearances of 14'3" over both the northbound and southbound lanes. Upon completion of the overlay project, the clearances will be further reduced to 13'11" over the northbound lanes and 14'00" over the southbound lanes. It is therefore recommended that the structure be raised to provide a minimum clearance of 17 feet after the overlay project.

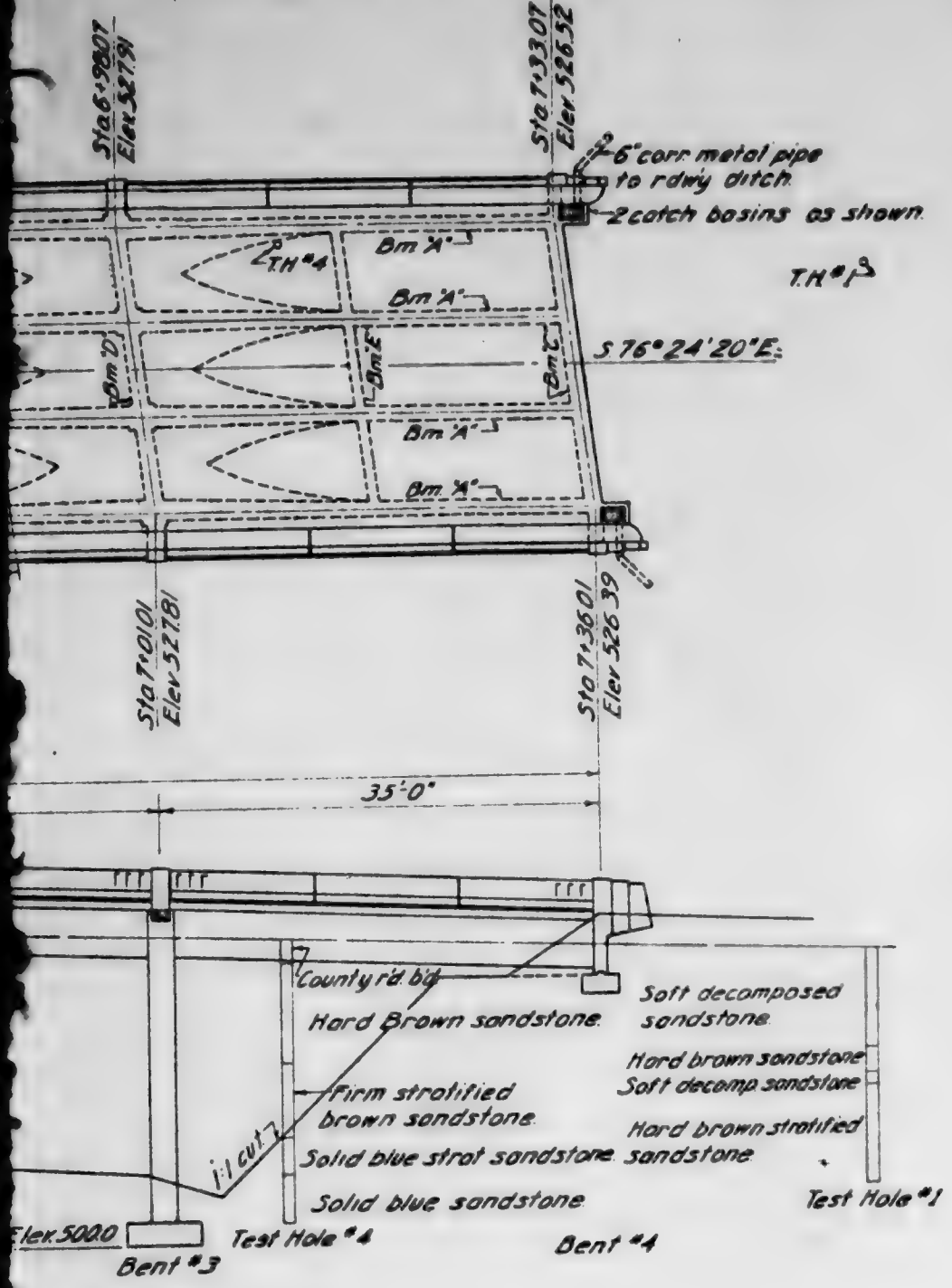
Drawings of the structures discussed above are shown in Appendix I and inspection records in Appendix II.

APPENDIX I

Drawings of Structures

Winchester Interchange-Garden Valley Road Section

Interstate 5



GENERAL NOTES

All concrete to be Class "A" with a breaking strength of 3300 p.s.i. in 28 days. (fc=1320 p.s.i.)

All reinforcing steel shall be intermediate grade deformed bars. Bars from number 3 to number 11 inclusive shall conform to A.S.T.M. spec. A305-50T and shall be lapped 20 diameters at all splices unless noted or shown otherwise. (1¼"" bars shall be lapped 60 diameters at all splices unless noted or shown otherwise.) All bars shall be placed 2" clear of nearest face of concrete unless noted or shown otherwise.

Column footings designed for 5 tons per sq ft. bear.

All material and workmanship shall conform to the specifications of the Oregon State Highway Commission.

Bridge designed for H20-S16-44 loading.

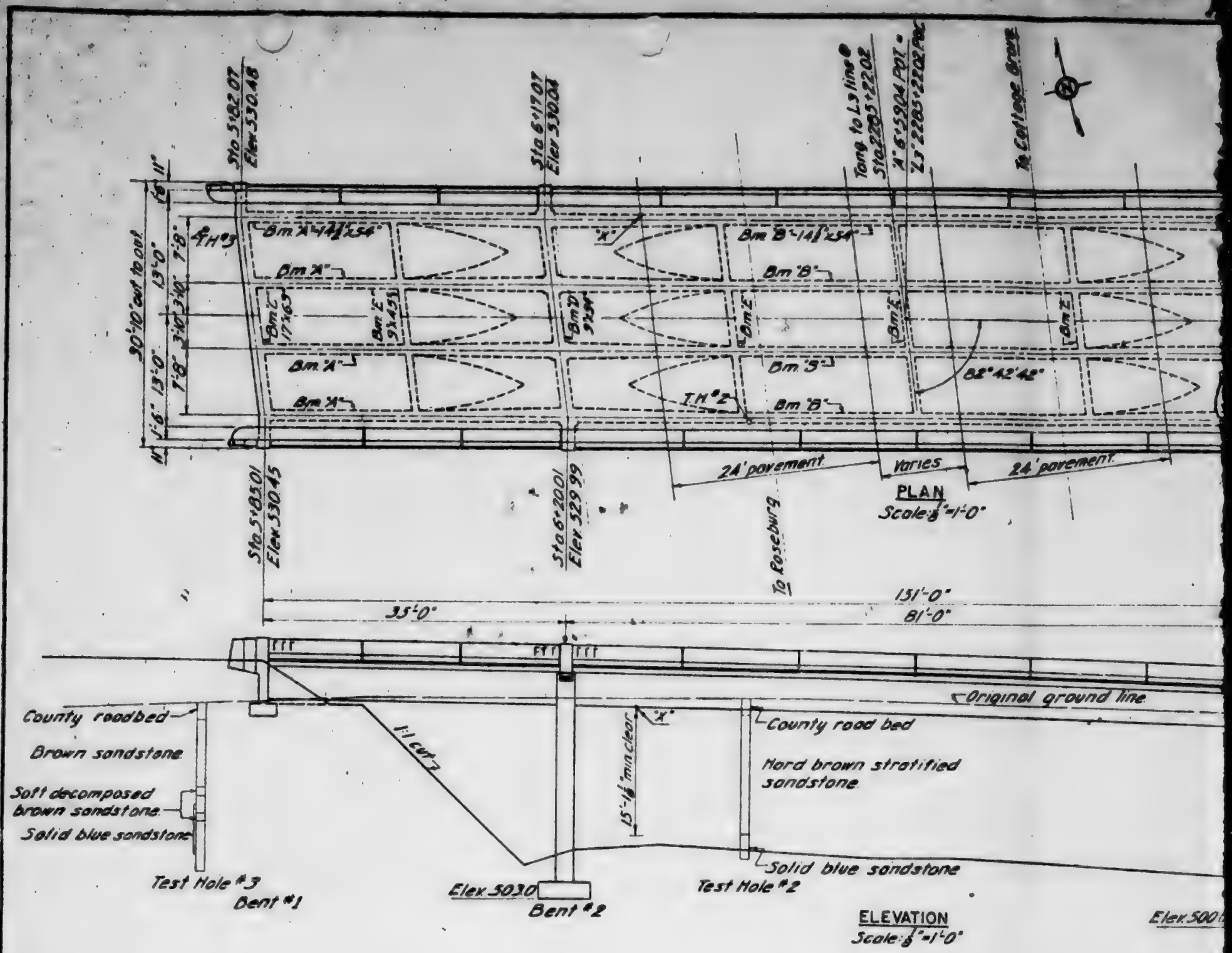
Mom. M	
R	M
1455	-59
578	-56
2033	-115

APPROVED BY:
H. D. Nelson
BRIDGE ENGINEER

OREGON
STATE HIGHWAY COMMISSION

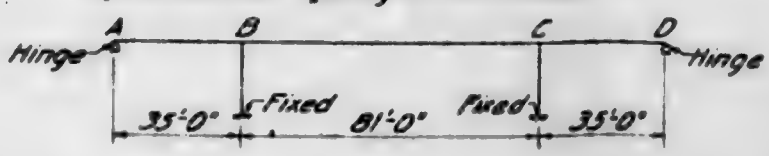
WINCHESTER ROAD UNDERCROSSING
DEADY - SHADY SECTION
PACIFIC HIGHWAY - DOUGLAS COUNTY
PLAN AND ELEVATION

SCALE AS NOTED | DRAWN BY T.G.T. | SHEET 1 OF 4
APRIL 2, 1953 | TRACED BY G.V.T. | BRIDGE NO. 7632
CALC. BK. NO. 311 | CHECKED BY | DRAWING NO. 10773
ACCOMPANIED BY DWGS. NO. 10774, 10734 & 5178



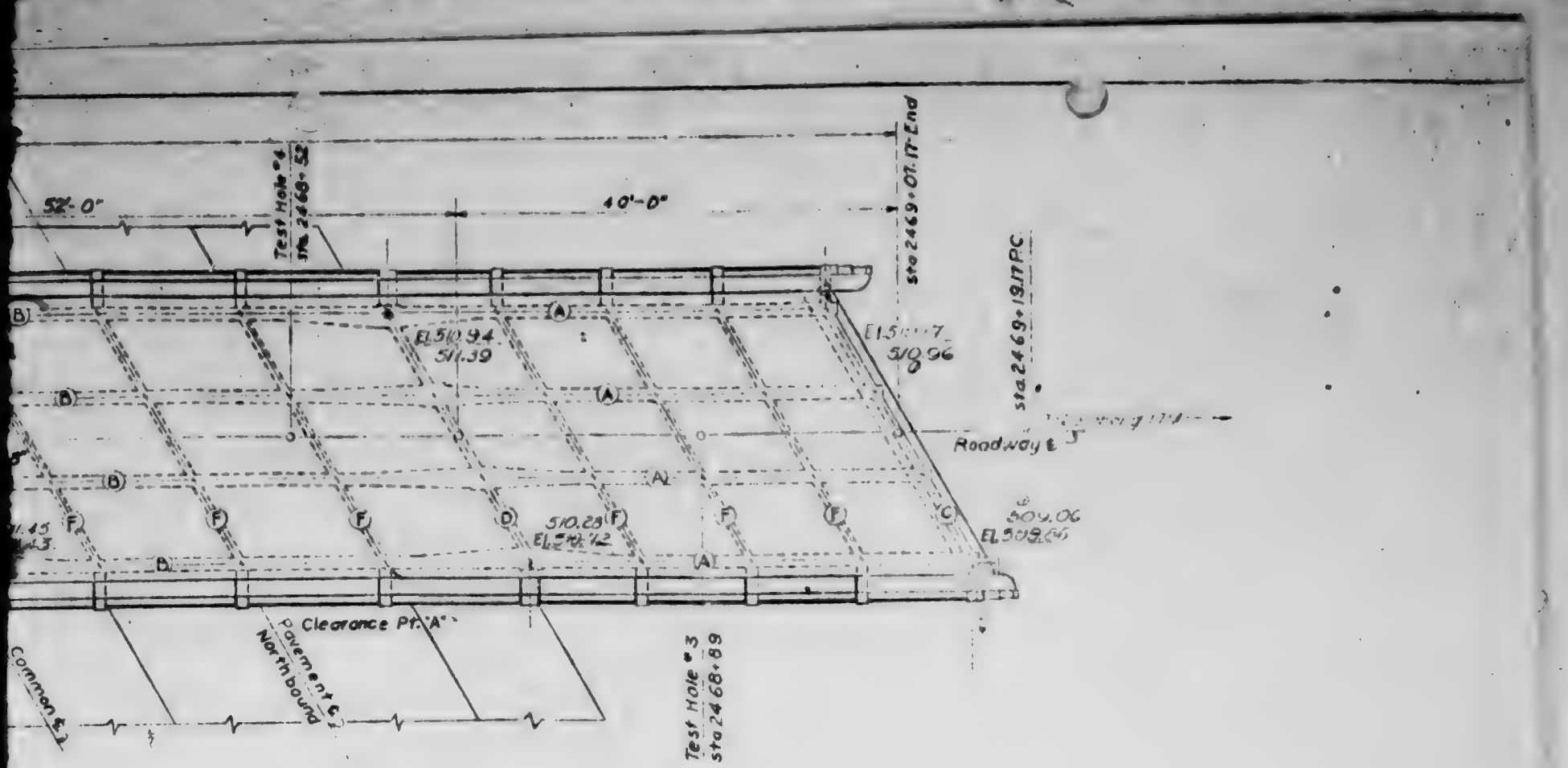
DESIGN DATA

Longit. beams designed for 26 lanes distributed equally to all beams



	+MAB	-MB	+MBC	VAB		VBA	VBC	RA		RB			
				Max.	Min.			Max.	Min.	Max. R	M	Max R	M
D.L.	-50	1037	468	1.5	1.5	65.5	78.1	8.2	8.2	143.5	-59	145.5	-3
LL+I	+240	621	445	35.6	-12.7	41.3	49.8	41.0	-12.7	63.5	-26	57.8	-3
Total	+190	1658	913	37.1	-11.2	106.8	127.9	50.0	-4.5	209.0	-85	203.3	-11

M = Ft. Kips / Beam.
V = Kips / Beam.
R = Kips / Col. @ bottom X-Bm.



RAL NOTES:
e designed for 2 lanes H20-S16-44 loading except
udinal beams, which are designed 2.6 lanes with load
ly distributed to all longitudinal beams.
nforcing steel shall be intermediate grade deformed
Bars from #3 to #11 inclusive shall conform to A.S.T.M.
A305-50T and shall be lapped 20 dia. unless other-
noted. 1½" bars shall be lapped 60 dia. at all splices
s otherwise noted.
ncrete shall be class "A" and shall attain a breaking
gth of 3300 p.s.i. in 28 days (fc = 1320 p.s.i.).

Revision @ 3-8-55

Assistant State Bridge Engineer

State Highway Engineer

OREGON
STATE HIGHWAY COMMISSION

AIRPORT ROAD UNDERCROSSING

DEADY — SHADY SECTION
PACIFIC HIGHWAY — DOUGLAS COUNTY

PLAN & ELEVATION

SCALE NOTED
SEPTEMBER 8, 1953
CALC BK NO 329
ACCOMP BY DWGS. 1049 1050, M...

DRAWN BY L.F.
TRACED BY M.K.
CHECKED BY

SHEET 1 OF 3
BRIDGE NO 7606
DWG NO 104

184'-0" Bntt. to Bntt.

40'-0"

32'-0"

32'-0"

Sta 2467+09.87

Catch Basin details, see Dwg. 9-183

Sta 2467+23.87

30'-5"

26'-0" Clear Roadway

11'-6"

1'-6"

To Winchester 2.6 Mi.

El. 511.40
310.56

El. 511.65
511.15

El. 511.53
311.50

555°-21'-30"E

60°-39'-45"

El. 512.35
El. 511.51

El. 512.14
El. 511.65

El. 511.45
El. 511.43

Test Hole #1
Sta 2467+27

Slope Paving: From out to out of outside beams, at end.

Note: Elevations shown are of finish grade, 12" above concrete deck.

½" mastic joint thru rail & curb to deck as shown.

Future Lane Southbound

℄ Line - Sta. 2468+15.11 P.O.T.
℄ Line - Sta. 2469+62.13 P.O.C.

Common ℄

PLAN VIEW

Top Soil

Compacted Gravel & Clay

Stratified Gravel & Clay

Solid Blue Shale

Slope paving

EXISTING GROUND LINE

Future Pavement ℄

Stratified Gravel & Clay

Firm Ce

ELEV. 488.0

ELEV. 489.0

BENT No. 1

BENT No. 2

BENT No. 3

All footings laid in Solid Blue Shale

ELEVATION VIEW
SCALE: ⅛" = 1'-0"

Sta 2467+94.55
El. 517.33

4.8%

3.0%

Sta 2465+44.55
El. 505.78

Sta 2467+23.11
Start of Bridge

Sta 2469+07.17
End of Bridge

Sta 2470+44.55
El. 505.29

300' V.C.

Elevations shown above are finish grade ℄

LINE PROFILE
NO SCALE

TEST HOLE DATA

Hole #1

El. 510.23	
El. 506.23	Top Soil
	Gravel & Hard Clay
El. 501.23	
	Strat Gravel & Clay
El. 491.23	
	Solid Blue Shale
El. 493.23	

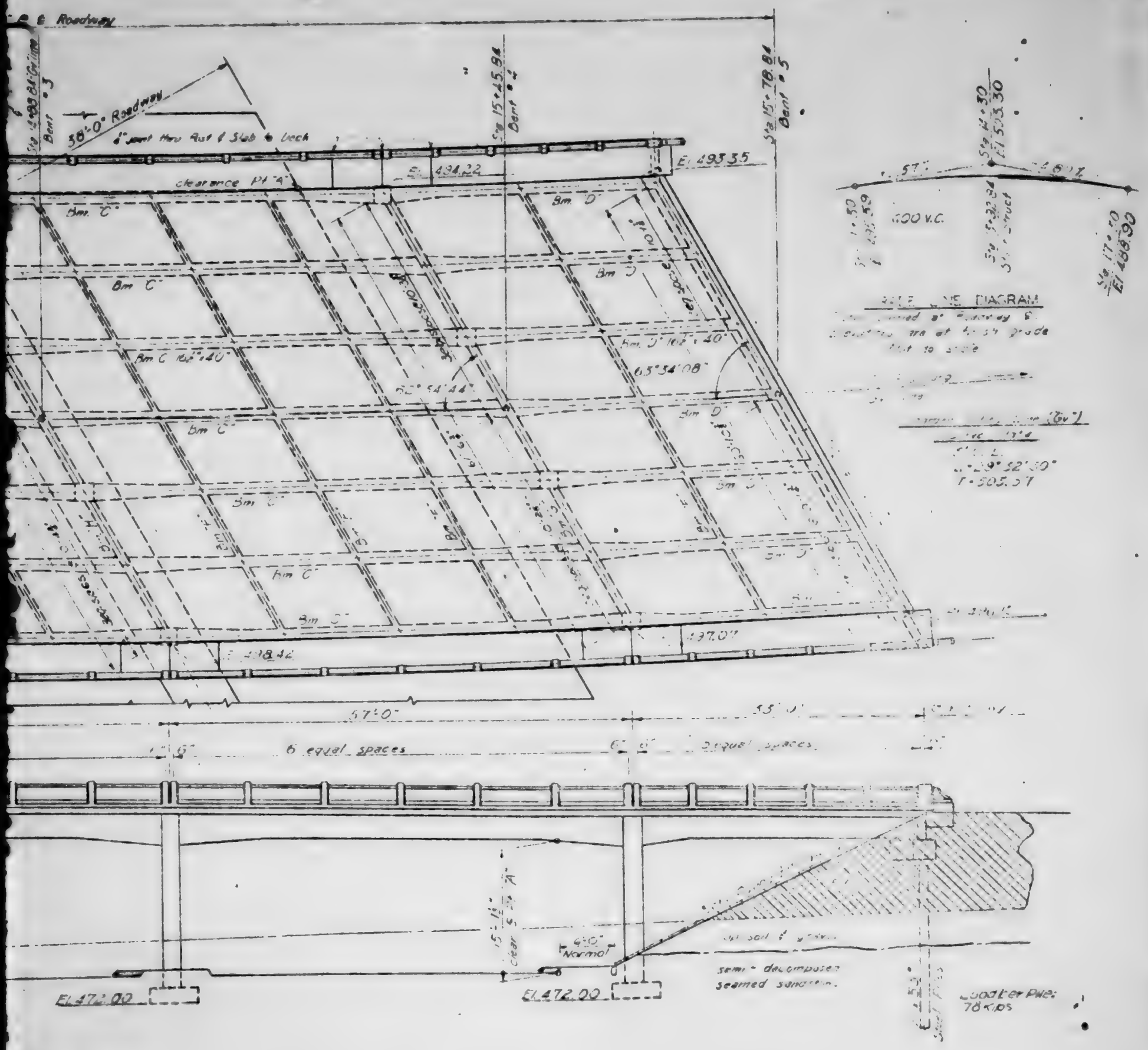
Hole #3

El. 500.6	
El. 498.6	Top Soil
El. 496.6	Hard Grey Clay
	Hard Gravel & Clay
El. 490.6	
	Soft Grey Clay
El. 486.6	
	Hard Blue Shale
El. 473.6	

Hole #4

El. 501.7	
El. 498.7	Top Soil
El. 496.7	Hard Grey Clay
El. 493.7	Hard Gravel & Clay
El. 490.7	Strat Gravel & Clay
El. 486.7	Hard Gravel & Clay
	Solid Blue Shale
El. 481.7	

GENERAL NOTES:
Bridge designed f
longitudinal beam
equally distributed
All reinforcing ste
bars Bars from
spec's A305-50T
wise noted. 1½" b
unless otherwise
All concrete shall
strength of 3300



N & ELEVATION
Scale: 1" = 10'-0"

OREGON
STATE HIGHWAY COMMISSION

PACIFIC HIGHWAY UNDERCROSSING OF GARDEN VALLEY ROAD DEADY - SHADY SECTION DOUGLAS COUNTY PLAN & ELEVATION

Approved:
Bridge Engineer

SCALE AS NOTED
JUNE 17 1954
CALC BK NO 342
ACCOMP BY DWGS 1581, 1582, 1583 & 9283

DRAWN BY L.R.
TRACED BY M.K.
CHECKED BY

SHEET 1 OF 5
BRIDGE NO. 7867
DRAWING NO. 1518

Note:
Elevations shown are at finish grade
1½" above top of concrete.
Constant superelevation of 0.065 ft/ft.

General Notes:
Bridge designed for 5 lanes H20-S16-44 loading except longitudinal beams, which are designed for 5.6 lanes with load equally distributed to all longitudinal beams.
All reinforcing steel shall be intermediate grade deformed bars.
Bars from #3 to #11 inclusive shall conform to A.S.T.M. specs. A305-50T and shall be lapped 20 dia. unless otherwise noted. If #11 bars shall be lapped 60 dia. at all splices unless otherwise noted.
All concrete shall be class A and shall attain a breaking strength of 3,300 p.s.i. in 28 days (fc = 1320 p.s.i.)

Slope Paving from out to out of longit. beams, each end of bridge

Loadbearing Piles
85 Kips

42'-53" Steel Piles

Max Soil Brg. Capacity 4 Tons/ft²

PLAN & ELEVATION
Scale: 1/8" = 1'-0"

APPENDIX II

Bridge Inspection Records

Winchester Interchange-Garden Valley Road Section

Interstate 5

Form E-136—2M—12-63 State Printing 64711

Oregon State Highway Department

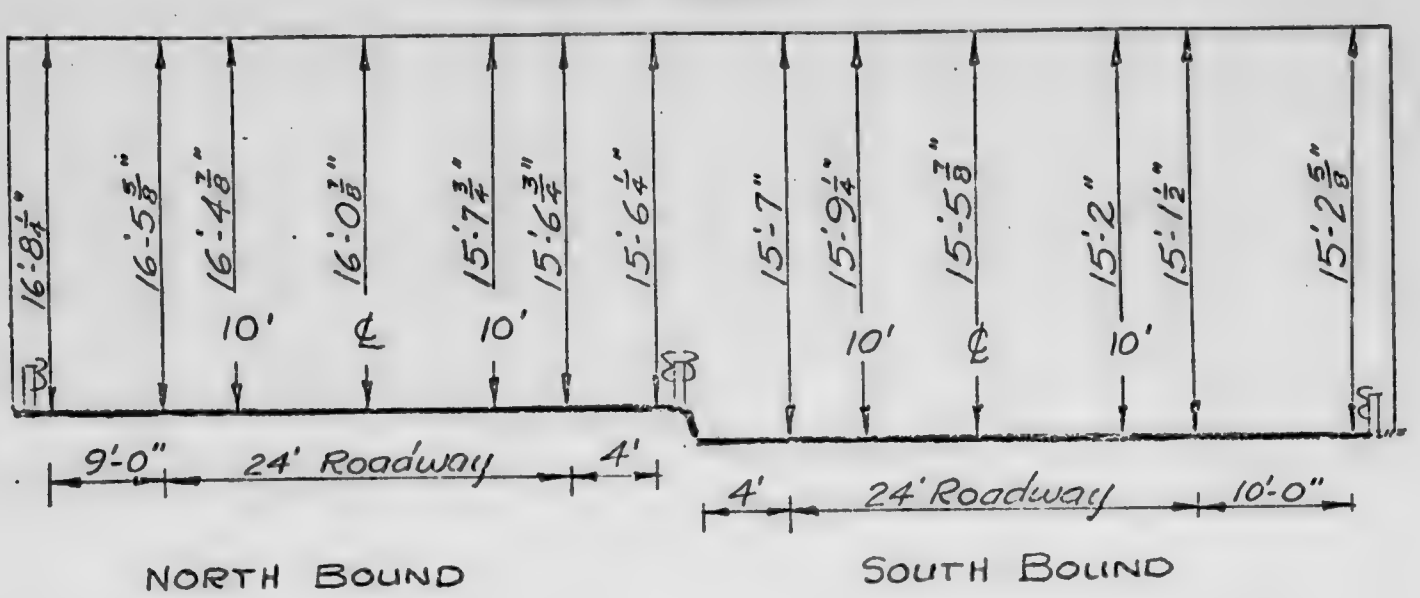
BRIDGE INVENTORY INSPECTION RECORD

SKETCHES

(6) Sheet ..... of .....

Bridge over UXING WINCHESTER RD. Road and mile No 1@ 189.10 129.22 County DOUGLAS

Inspected by BANGERT Date 10-28-65 Bridge No. 7632



Form E-130—2M—12-63 State Printing 54711

Oregon State Highway Department

BRIDGE INVENTORY INSPECTION RECORD

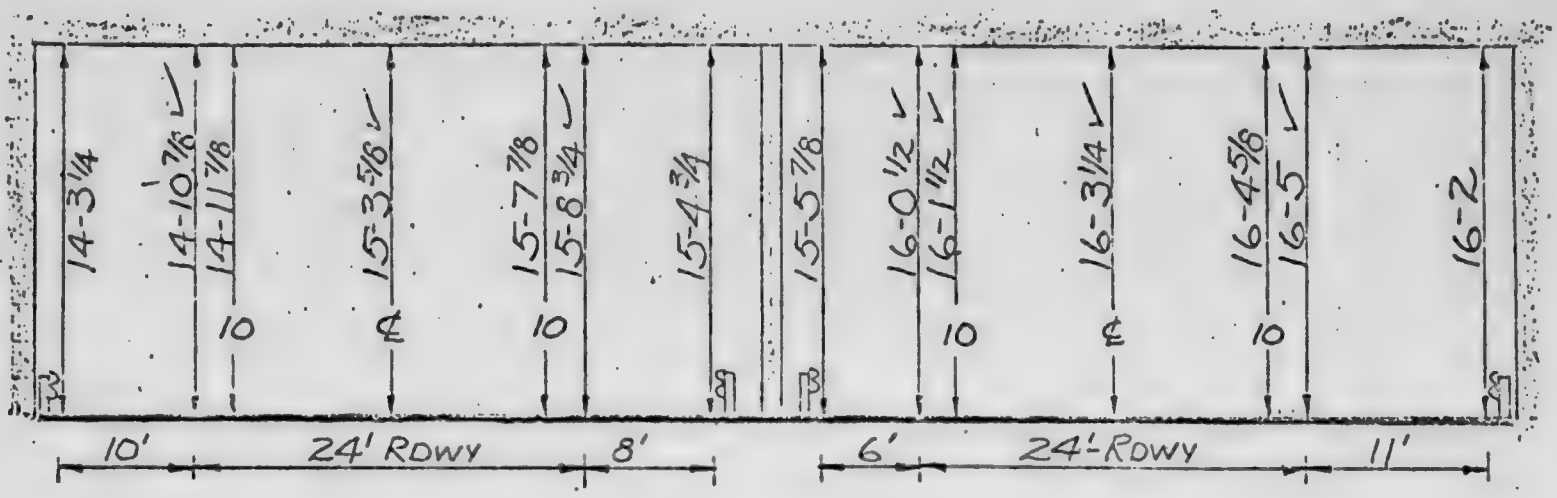
P3 (6)

(AIRPORT RD.) **SKETCHES** 125.72 Sheet ..... of ~~3-5~~

Bridge over UXING BROAD ST Road and mile No. I- ~~192.60~~ County DOUGLAS

Inspected by BANGERT Date ~~12-15-64~~ 10-28-65 Bridge No. 7666

LOOKING SOUTH



NORTH BOUND SOUTH BOUND

Form E-130—2M—12-63 State Printing 54711

Oregon State Highway Department

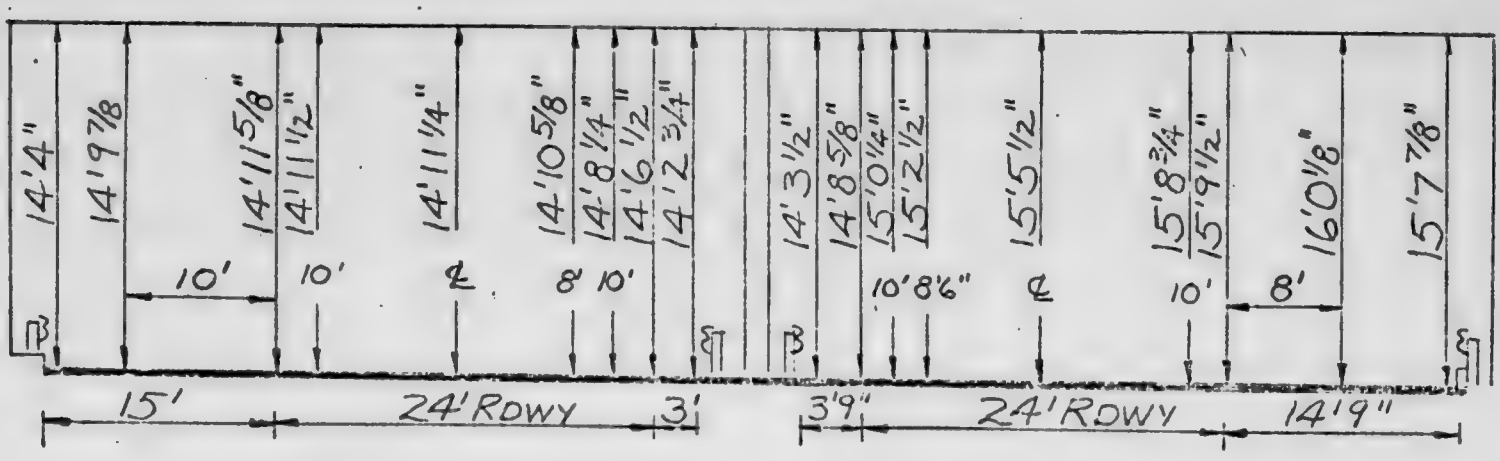
BRIDGE INVENTORY INSPECTION RECORD

SKETCHES 125.C8 19327 Sheet ..... of ~~3~~

Bridge over UXING GARDEN RD Road and mile No. 1 County DOUGLAS

Inspected by BANGERT Date 10-28-65 Bridge No. 7667

LOOKING SOUTH



NORTH BOUND SOUTH BOUND

8251

R

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: August 9, 1974

In reply refer to: 1041DB.3

SUBJECT: Oregon Project I-5-3(-)125
Winchester-Garden Valley Road Section
Pavement Overlay

FROM : G. L. Green, Division Engineer

NOTED
E. S. HUNTER

CC Wolfe
Venting
8-14-74

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. Tebeau's letter of May 6 requested approval of a three-inch overlay for both lanes of the subject section with leveling and a one-inch open graded seal.

Area Engineer Lowe observed that the SB lanes are in better condition than the NB lanes. This observation is supported by deflection measurements in Mr. Gregg's report. Mr. Lowe considers that the structural index of the SB lanes reached 2.5 about 1974.

Therefore I approve a three-inch overlay on the NB lanes and a two-inch overlay on the SB lanes with leveling and a one-inch open graded seal on both lanes.

for G. K. Hoosner
G. L. Green

RECEIVED
STATE HWY ENGR
AUG 15'74
REFER TO
Hunter
FOR

NOTED
A. E. JOHNSON

RECEIVED
AUG 13 1974
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

May 6, 1974

Mr. Glen L. Green
Division Engineer
Federal Highway Administration
Post Office Box 300
Salem, OR 97308

Dear Mr. Green:

Re: Winchester-Garden Valley Road
Pacific Highway, Douglas County

An evaluation of the overlay requirements on the subject section has been completed. Three overlay procedures, underdesign, deflection, and the "Williams Method" were used to obtain the result recommended and are included in the report.

Two copies of the overlay design analysis are attached for your review. Should any questions arise about the analysis, they will be answered promptly.

Your approval of the three-inch asphaltic concrete overlay with leveling, plus one-inch open graded plant mix seal, is requested.

Very truly yours,

Victor D. Wolfe
Location Engineer

By

W.H. Tebeau
Assistant Location Engineer

CJG:af jp
Attachments
cc E.S. Hunter
C.J. Gregg

OREGON STATE HIGHWAY DIVISION
LOCATION SECTION
SOILS AND GEOLOGY UNIT
PROJECT BASE DESIGN

Section: Winchester - Garden Valley Road
Highway: Pacific (FAR 3)
County: Douglas
Prefix: 610-1935

Res. Engr.
Approx. Length 4.5± miles
Sta. 2284+50± to Sta. 2522+00±
Date April 22, 1974

Mean Truck A.D.T. 1674
Traffic Coefficient 10.4 (1974-1983)
18 kip s. a. per day 861.2

Annual Precipitation 32"±
Frost Penetration - - - -
CBE Total Requirement 36.0"

(1)

Typical Soil

33	LL
13	PI
92	%P 10
65	%P 200
8	% Gravel
11	% C Sand
16	% F Sand
31	% Silt
34	% Clay
3	R Value
A-6	AASHO Classif.

Materials Source:

To be determined by the Engineer.

Credit	Actual Thick.	Component
	1.0"	A.C.W.C.
	3.0"	A.C.

SECTION: Winchester-Garden Valley Rd.

HIGHWAY: Pacific (FAR 3)

COUNTY: Douglas

"OTHER ROADS"

Traffic Coefficient	A.C. W.C.	*A.C. Wearing Surface*	A.C. Base	*Aggregate Base*	*Aggregate Base*	*"CBE" Total Requirement*	*Actual Thickness*
NEW WORK Mainline	1.0"	2.0"	16.0"	---	---	36.0"	19.0"
9.0 - 10.0		2.0"	12.0"	----	4.5"	32.5"	18.5"
8.0 - 9.0		2.0"	10.0"	----	5.0"	29.0"	17.0"
7.0 - 8.0		2.0"	9.0"	----	4.0"	26.0"	15.0"
6.0 - 7.0		2.0"	2.0"	----	14.5"	22.5"	18.5"
4.8 - 6.0		2.0"	---	----	15.0"	19.0"	17.0"
Cars Only		2.0"	---	----	10.0"	14.0"	12.0"

Should substitutions be made use the "CBE" Total Requirement column to obtain the "Total Thickness Required" and the table below for values:

1.0"	Asphalt Concrete	= 2.0"	Aggregate Base
1.0"	Plant Mix Bituminous Base	= 1.8"	Aggregate Base
1.0"	Cement Treated Base	= 1.8"	Aggregate Base
1.0"	Oil Mat	= 1.1"	Aggregate Base
1.0"	Aggregate Subbase	= 0.8"	Aggregate Base
1.0"	Lime Treated Subgrade	= 1.0"	Aggregate Base

Above factors apply to materials that comply with Standard Specifications and Special Provisions.

FORM E-99

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon

DATE April 22, 1974

TO Victor D. Wolfe, Location Engineer

FROM C. J. Gregg, Base Design Engineer

SUBJECT Overlay Design Recommendations
Winchester-Garden Valley Road
Pacific Highway (FAR 3)
Douglas County

Following is a report on the evaluation of the pavement structural sections from Station 2284+50± through equation to Station 2522+00± of the subject project. Grading and paving were completed under four contracts.

The existing pavement structural sections for the project were analyzed to determine the overlay thickness required to successfully complete the twenty-year design period. This was accomplished by sampling the material sources used for the original projects, testing existing pavement cores, and duplicating in the laboratory from project records, mix designs, and aggregate materials required by standard specifications current at the time of construction. The results of these tests are then compared to present-day standard specifications to establish the equivalencies used in the computations. Below are the equivalencies established by the Laboratory for the subject section:

(Current Specification Crushed Base Equivalent = CBE = 1.0")

Contract Number 4058 (1954)

Top Course Base (3/4"-0)	CBE = 1.0"
Bottom Course Base (3"-0)	CBE = 0.5"

Contract Number 4157 (1954-1955)

Asphaltic Concrete	CBE = 1.7"
Top Course Base (3/4"-0)	CBE = 1.0"
Bottom Course Base (3"-0)	CBE = 0.5"

Contract Number 6275 (1963-64)

Asphaltic Concrete (Wearing Surface)	CBE = 1.8"
Asphaltic Concrete (Base)	CBE = 1.7"
Plant Mix Bituminous Base	CBE = 1.8"
Aggregate Base	CBE = 1.0"

Underdesign Method

The results indicated below are the differences in crushed base equivalent credit allowed in the original surfacing designs and the present (1974) design requirements. Supporting data includes Sketch Map (1); "As Constructed" Typical Sections, A-1 through A-1-d; Laboratory reports and letters, A-2 through A-2-1; and Traffic Analysis sheets, A-3 and A-3-a.

The northbound lanes had Selected Subgrade Materials as part of the structural section. No record of the source location or test results of the SSM have been found. As the soil subgrade has been improved, a minimum thickness for the traffic classification was used in the computations rather than the original value of the soil.

NB Station 2284+50± to Station 2522+00±

	Minimum for Traffic Classification
Design R Value	11.3 (1963-1983)
Traffic Coefficient	26.0"
CBE Requirement	15.0"
Constructed CBE	11.0"
Total Underdesign	5.5"
Asphaltic Concrete Overlay Required	

SB Station 2284+50± to Station 2522+00±

Design R Value	3
Traffic Coefficient	11.3 (1963-1983)
CBE Requirement	39.0"
Constructed CBE	29.5"
Total Underdesign	9.5"
Asphaltic Concrete Overlay Required	4.75" or 5.0"

Deflection Method

The overlay thickness required by deflection measurements is shown below, and a summary of the tests is attached, A-4 through A-4-c.

Station 2284+50± to Station 2522+00±

	N.B.	S.B.
Average Deflection	0.020	0.013
Evaluated (80%) O.W.T.	0.025	0.017
1974-1983 Traffic Coefficient	10.4	10.4
Ten Year E.W.L. (Remainder of Design Period)	38,651,400	38,651,400
Tolerable Deflection	0.010	0.010
Percent Reduction Required	60.0	41.2
Crushed Base Equivalent Required	9.0"	5.0"
Asphaltic Concrete Overlay Required	4.5"	2.5"

No condition survey was made on this section, so this method of overlay analysis has been omitted.

Williams Method

Traffic Analysis sheets used in the computations below are numbered A-5 through A-5-b.

Station 2284+50± to Station 2522+00±

Data:

1963 - Authorization Date
1963 to 1983 - 20 Year Design Period
1965 - Year opened to traffic
1970 - Year pavement reached $P_t = 2.5$ (Obtained through John Sheldrake from Section and Paving foremen.)
100% Trucks in Design Lane
50-50 ADT Split (Included on Traffic Analysis Sheet)
Soil Support Value = 2.8 (Based on R = 3)
Regional Factor = 1.0
Layer Coefficient for Crushed Stone Base Course = 0.14 (AASHO Interim Guide for Design of Pavement Structures, 1972)

ANALYSIS

Loading was determined for the periods under consideration by using 1963 traffic data and 18 kip Traffic Analysis Sheets.

1965 - 1970 (Year of opening to year pavement reached $P_t = 2.5$
Average Daily 18 kip Loads = 650.6
Total 18 kip Loads (1965-1970) = 1,187,273

From AASHO Chart 400-2, $P_t = 2.5$
SN Supplied = 4.18

1965 - 1983 (Remainder of Design Period after opening)
Average Daily 18 kip Loads = 900.0
Total 18 kip Loads (1965-1983) = 5,912,827

From AASHO Chart 400-1, P_t = 2.0
SN Required = 4.93

SN Required = 4.93
SN Supplied (Opening to 1970) = 4.18
SN To be added = 0.75

CBE Required = 0.75/0.14 = 5.36"

A.C. Overlay Required = 1/2 CBE Required
= 1/2 (5.36") = 2.68" say 3.0"

Recommendations

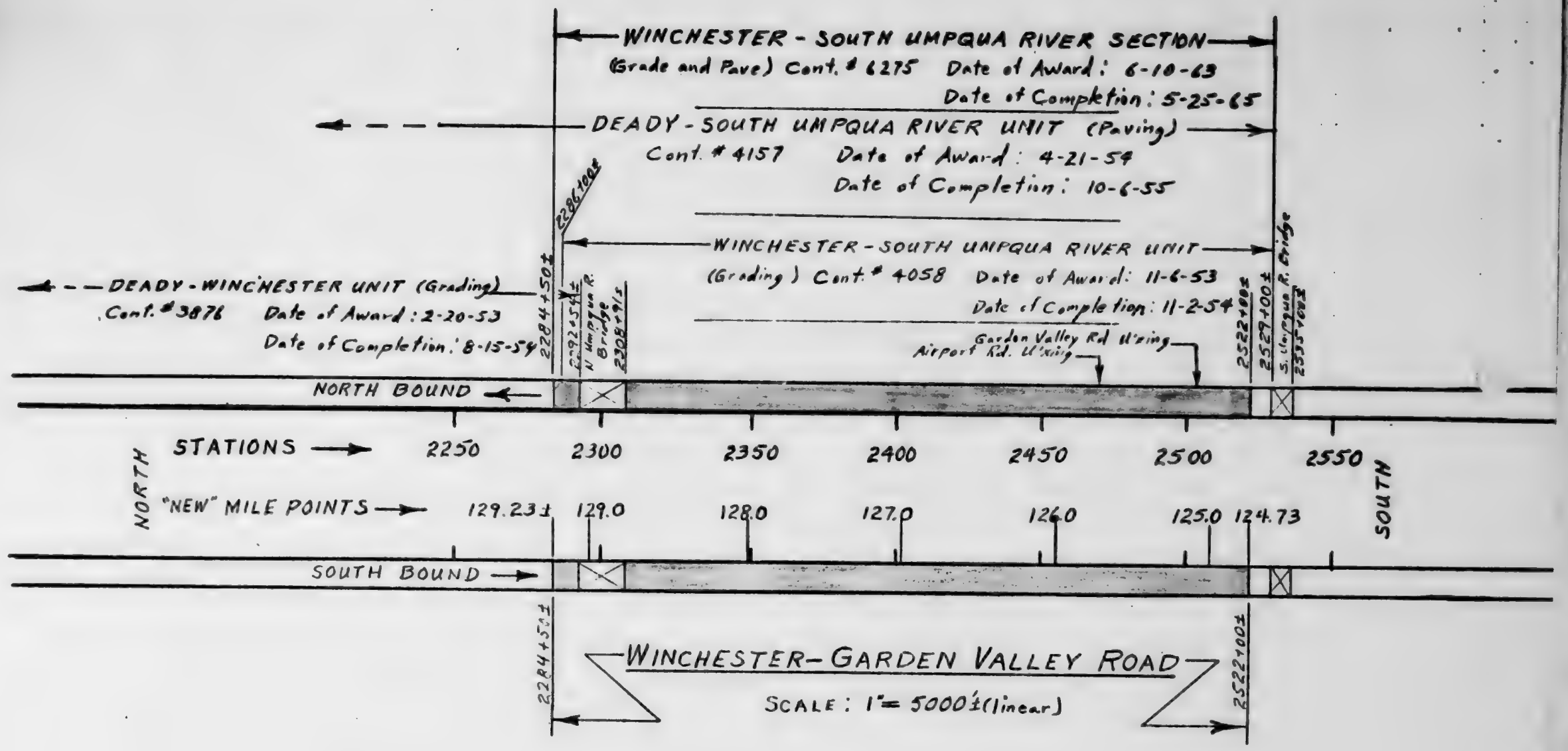
The data presented above indicates that a minimum of 3.0" asphaltic concrete overlay is required to successfully complete the planned twenty-year design period. Our recommendation is to place 3.0" of asphaltic concrete plus a nominal level course, and a one-inch open-graded plant mix seal.

CJG:af

Winchester-Garden Valley Road
Pacific Highway (FAR 3)
Douglas County

INDEX TO ATTACHMENTS

Item	Page
Sketch Map	(1)
"As Constructed" Typical Sections	A-1, A-1-a, A-1-b, A-1-c, and A-1-d
Base Design, 1963	A-1-e
Laboratory Letters	A-2, A-2-a, and A-2-b
Laboratory Reports (Core Tests)	A-2-c, A-2-d, and A-2-e
Laboratory Reports (Aggregate)	A-2-f, A-2-g, A-2-h, and A-2-i
Laboratory Reports (Mix Design)	A-2-j, A-2-k, and A-2-l
Traffic Analysis	A-3 and A-3-a
Deflection Measurements	A-4, A-4-a, A-4-b, and A-4-c
Traffic Analysis for "Williams Method"	A-5, A-5-a, and A-5-b



COLOR KEY

OVERLAID (1963-65)

2.0" A.C. (1963-65)
3.5" A.C. (1954-55)
9.5" Base
18.0" S.S.M.

NEW WORK (1963-65)

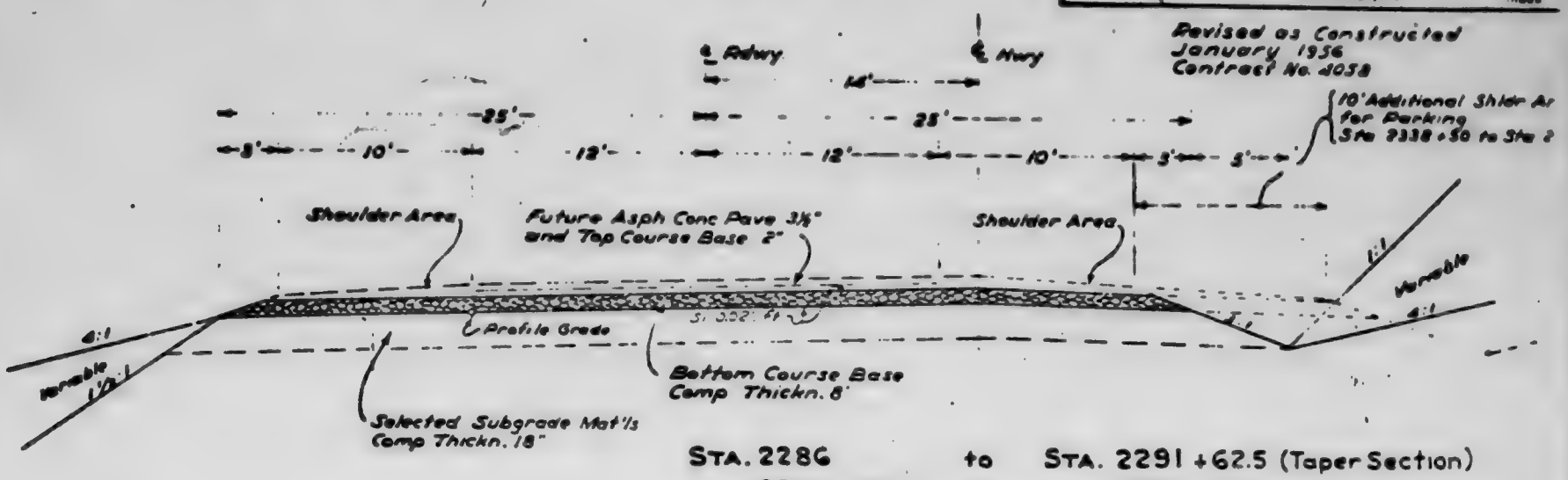
4.0" A.C. (1963-65)
3.0" P.M.B.B.
17.0" Bottom Course Base

(2)

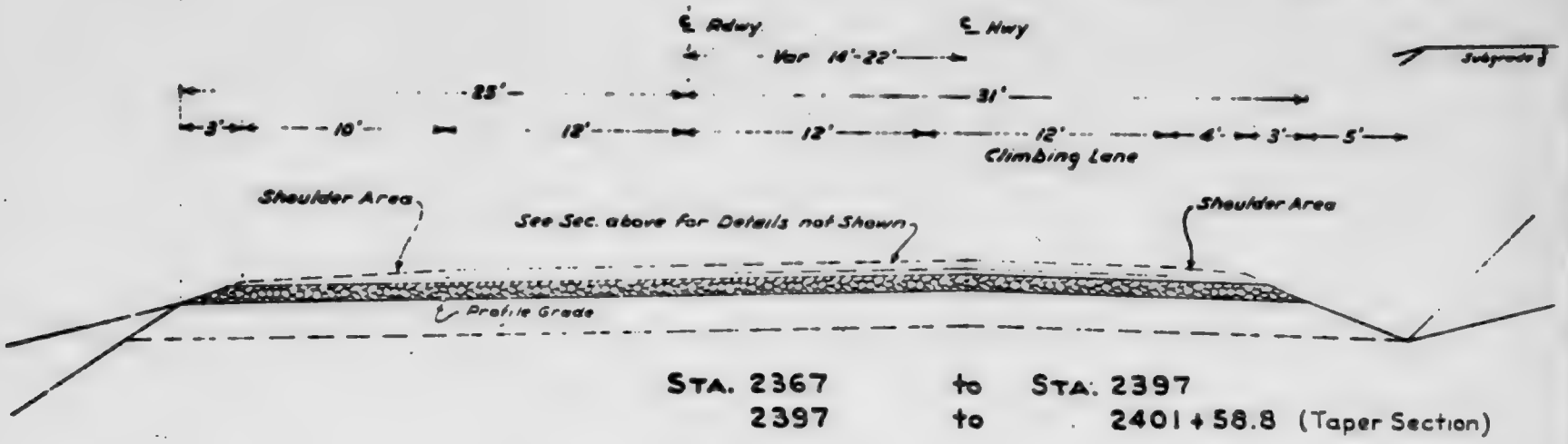
A L S E C T I O N S

WINCHESTER - S. UMPQUA RIVER UNIT DEADY – SHADY SECTION PACIFIC HIGHWAY DOUGLAS COUNTY				SHEET No. 2A
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
8	OREGON	BF1-78(17)		See Index

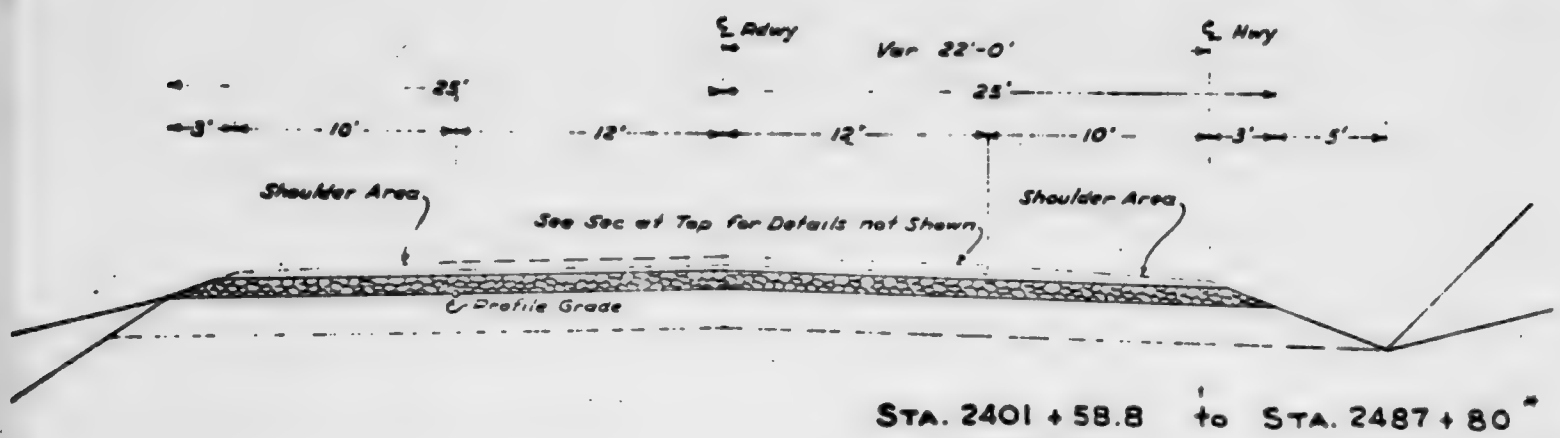
Revised as Constructed
January 1956
Contract No. 4058



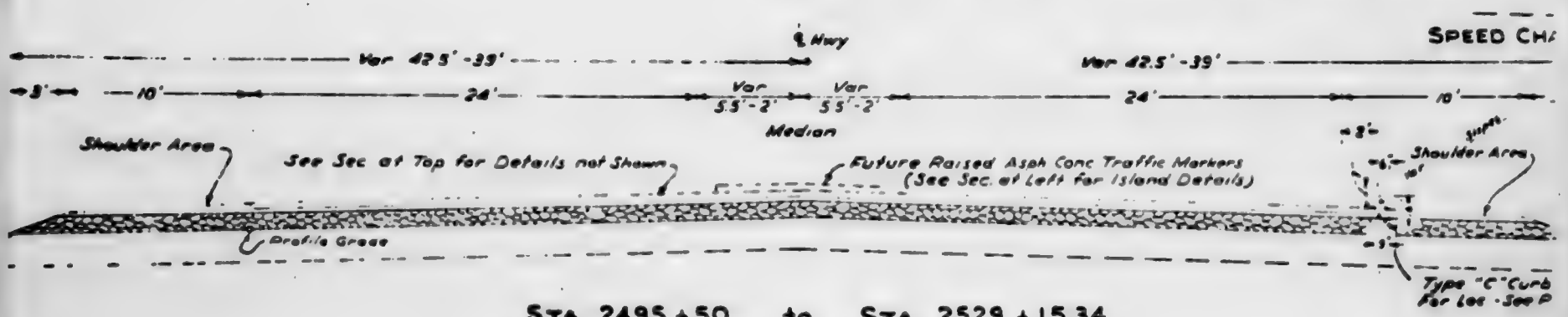
STA. 2286 to STA. 2291 + 62.5 (Taper Section)
2291 + 62.5 to 2292 + 79 - N. End of Br
S. End of Br - 2308 + 91 to 2364 "
2364 to 2367 (Taper Section)



STA. 2367 to STA. 2397
2397 to 2401 + 58.8 (Taper Section)



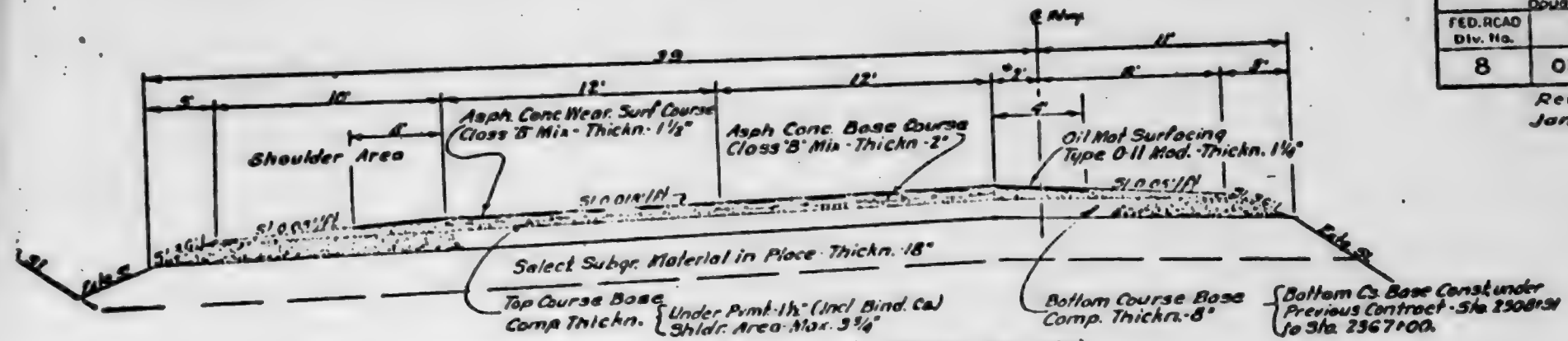
STA. 2401 + 58.8 to STA. 2487 + 80
2487 + 80 to 2495 + 50 (Taper Section)



STA. 2495 + 50 to STA. 2529 + 15.34

DEADY-WINCHESTER, UNIT 6 WINCHESTER – S. UMPQUA RIVER UNIT DEADY-SHADY SECTION PACIFIC HIGHWAY DOUGLAS COUNTY				SHEET No. 2-A
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
8	OREGON	BFI-189 (17) BFI- 78 (21)		See Index

Revised as Constructed
Jan 1957 - Contract 4157


℄ Alwy
39'
12'
12'
12'
5'
10'
4'
Shoulder Area
Asph. Conc. Wear. Surf. Course Class 'B' Mix - Thickn. 1½"
Asph. Conc. Base Course Class 'B' Mix - Thickn. 2"
Oil Mat Surfacing Type O-11 Mod. - Thickn. 1¼"
Select Subgr. Material in Place - Thickn. 18"
Top Course Base Comp. Thickn.
Under Pvmt 1½" (Incl. Bind. Co.)
Shldr. Area - Max. 3¾"
Bottom Course Base Comp. Thickn. - 8"
Bottom Cs. Base Const. under Previous Contract - Sta 2308+91 to Sta. 2367+00.

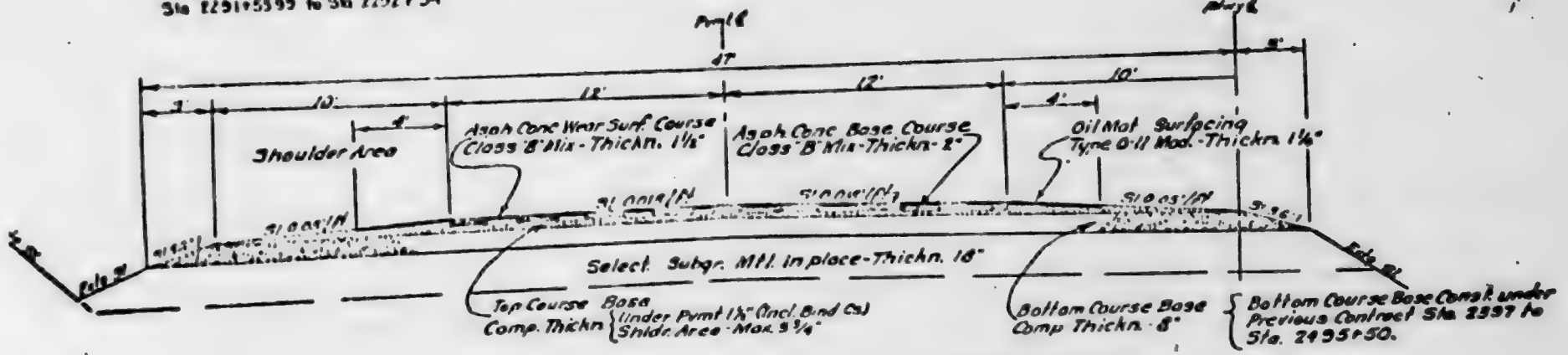
PROJECT BFI 189(17)

Sta. 1848+00 to Sta 1952+26.71
• Sta. 1952+26.71 to Sta 1960+79.37
• Sta 2031+01.05 to Sta 2035+55.52
Sta 2035+55.52 to Sta 2037+13.92 • to Sta 2228+00
Sta 2370+39.41
• Sta 2278+00 to Sta 2285+40.90
Sta 2281+98 to Sta 2291+39.99 (Pvmt. Taper Sec)
Sta 2291+39.99 to Sta 2292+54

PROJECT BFI 78(21)

Sta 2308+91 to Sta 2364+00
Sta 2364+00 to Sta 2367+00 (Pvmt. Taper Sec)

• Edge of Pvmt varies from 2' to 10' Lt. of ℄ (See Plans)

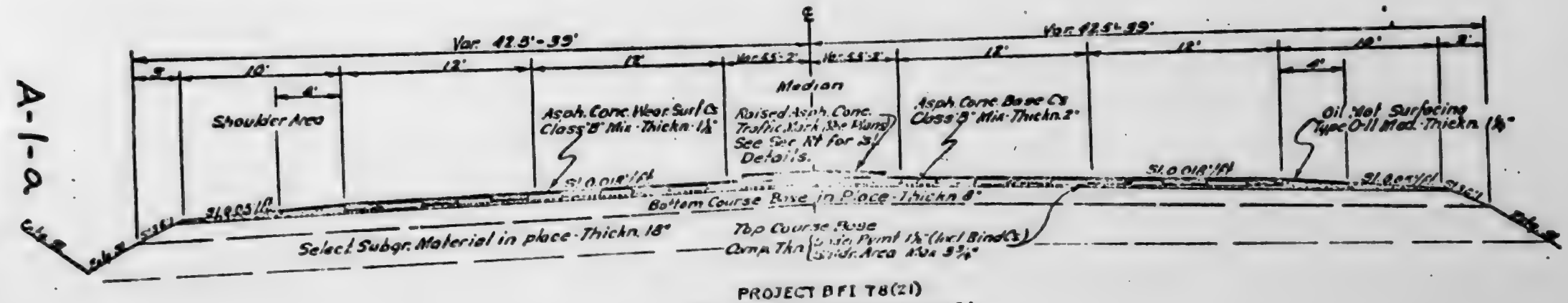

Pvmt ℄
Alwy ℄
41'
10'
12'
12'
10'
4'
Shoulder Area
Asph. Conc. Wear. Surf. Course Class 'B' Mix - Thickn. 1½"
Asph. Conc. Base Course Class 'B' Mix - Thickn. 2"
Oil Mat Surfacing Type O-11 Mod. - Thickn. 1¼"
Select Subgr. Mtl. in place - Thickn. 18"
Top Course Base Comp. Thickn.
Under Pvmt 1½" (Incl. Bind. Cs.)
Shldr. Area - Max. 3¾"
Bottom Course Base Comp. Thickn. - 8"
Bottom Course Base Const. under Previous Contract Sta. 2397 to Sta. 2495+50.

PROJECT BFI 189(17)

Sta 1960+79.37 to Sta 2031+01.05
Sta 2293+40.90 to Sta 2260+00.56
Sta 2260+00.56 to Sta 2268+00 (Pvmt Taper Sec)

PROJECT BFI 78(21)

Sta. 2397+00 to Sta. 2401+58.8 (Pvmt. Taper Sec)
Sta 2401+58.8 to Sta 2487+80
Sta 2487+80 to Sta. 2495+50 (Pvmt Taper Sec)


℄
Var. 42.5'-39'
Var. 42.5'-39'
12'
12'
12'
12'
10'
4'
Shoulder Area
Asph. Conc. Wear. Surf Cs Class 'B' Mix - Thickn. 1½"
Median
Raised Asph. Conc. Traffic Mark (See Plans) See Sec. N° for Sp. Details.
Asph. Conc. Base Cs Class 'B' Mix - Thickn. 2"
Oil Mat Surfacing Type O-11 Mod. - Thickn. 1¼"
Bottom Course Base in Place - Thickn. 8"
Select Subgr. Material in place - Thickn. 18"
Top Course Base Comp. Thn
Under Pvmt 1½" (Incl. Bind Cs.)
Shldr. Area - Max. 3¾"

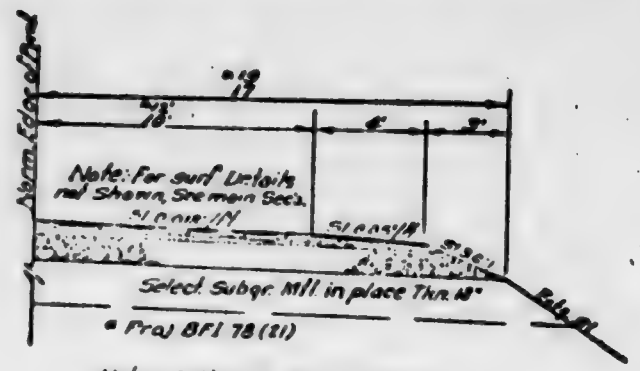
A-1-a

PROJECT BFI 78(21)

Sta 2495+50 to Sta. 2529+16.34

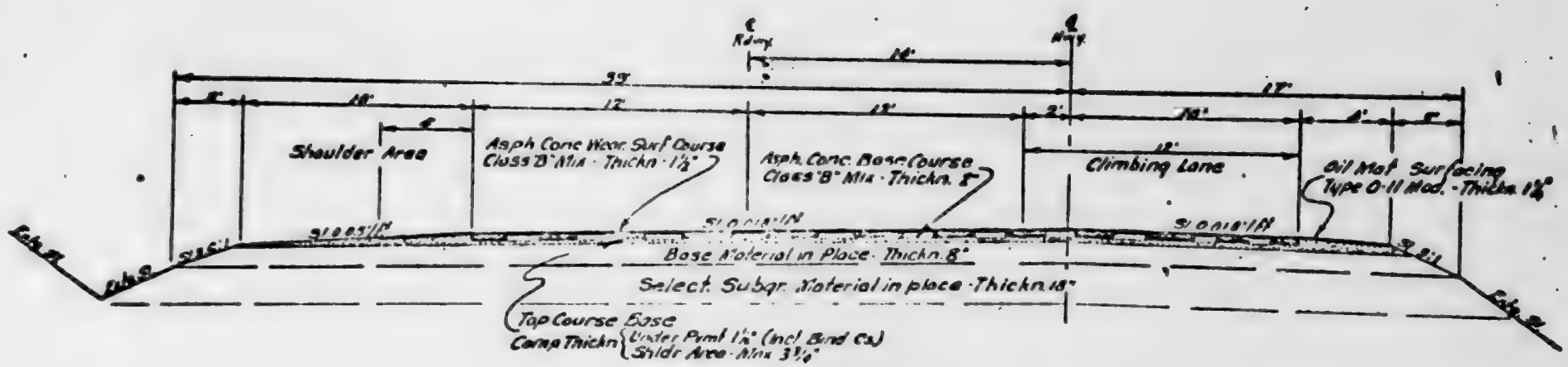
DEADY-WINCHESTER UNIT & WINCHESTER - S. UMPQUA RIVER UNIT DEADY-SHADY SECTION PACIFIC HIGHWAY DOUGLAS COUNTY				SHEET No. 2-A
FED. ROAD DIV. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
8	OREGON	BFI-189 (17) BFI-78 (21)		See Index

Revised as Constructed
Jan 1957 - Contract 4157

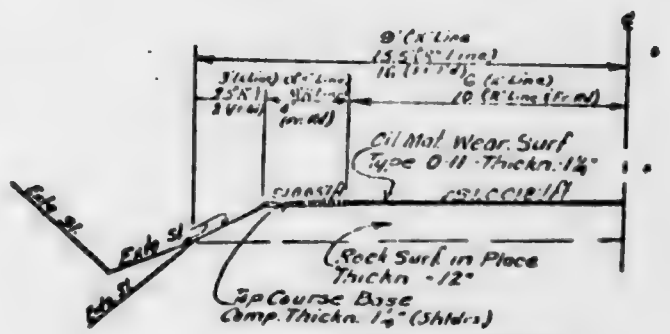


Note: Bottom Crs Base in place on Proj. BFI 78(21)

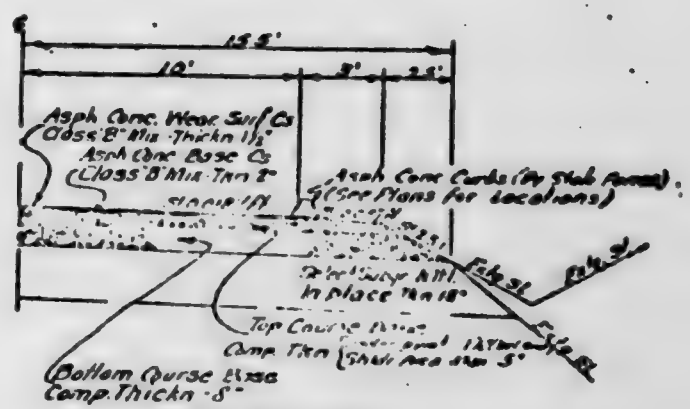
SPEED CHANGE LANES
(See Plans)


Shoulder Area
Asph. Conc. Wear. Surf Course Class 'B' Mix - Thickn. 1½"
Asph. Conc. Base Course Class 'B' Mix - Thickn. 8"
Climbing Lane
Oil Mat. Surfacing Type O-11 Mod. - Thickn. 1½"
Base Material in Place - Thickn. 8"
Select. Subgr. Material in place - Thickn. 18"
Top Course Base Comp. Thickn. Under Pvmt 1½" (incl. Bond Crs)
Shldr Area - Min 3½"

PROJECT BFI 78(21)
Sta. 2367+00 to Sta. 2397+00



HALF SECTION
PROJECT BFI 189(17)
Sta 'R' 1964+68.38 to Sta 'R' 1985+11.87
Sta 'K' 2035+00 to Sta 'K' 2039+80
PROJECT BFI 78(21)
Sta 2435+50 to Sta 2471+00 Lt (Pt Rd)

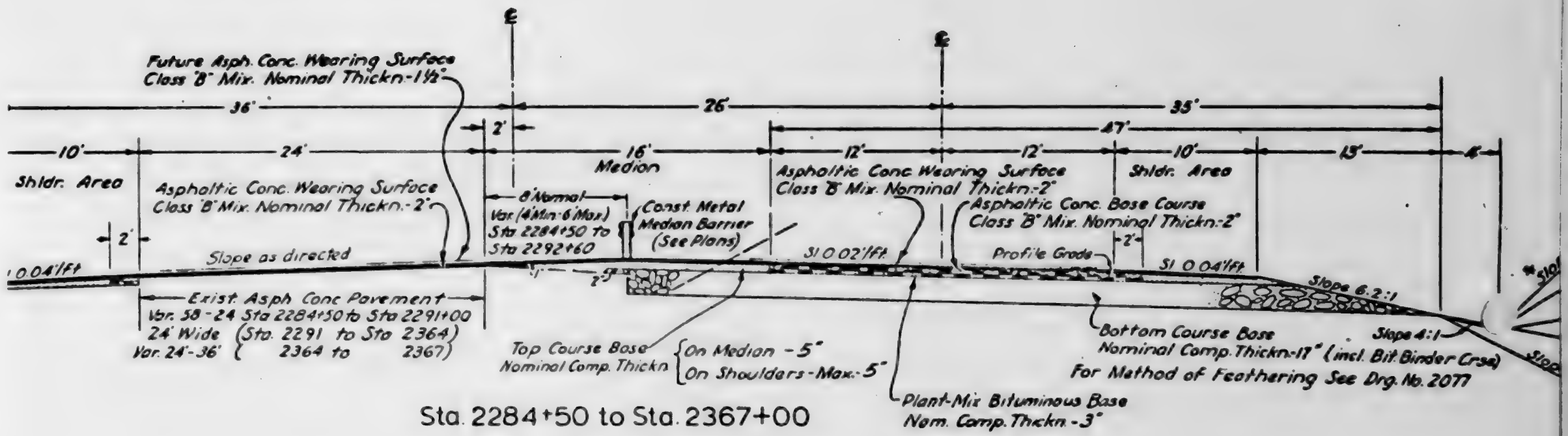

Asph. Conc. Wear. Surf Cs Class 'B' Mix - Thickn 1½"
Asph. Conc. Base Cs (Class 'B' Mix - Thkn 8"
Asph. Conc. Curbs (By Slab Forms) (See Plans for Locations)
Select. Subgr. Mtl. in Place Thkn 18"
Top Course Base
Bottom Course Base Comp. Thickn - 8"

HALF SECTION
PROJECT BFI 189(17)
Sta 'A' 1+45 to Sta 'A' 10+95 (Base Mtl in place)
Sta 'B' 2272+00 to Sta 'B' 2288+60
Sta 'C' 2272+00 to Sta 'C' 2286+60
Sta 'F' 2284+50 to Sta 'F' 2286+50

A-1-b

WINCHESTER–SOUTH UMPQUA RTN. SEC. PACIFIC HIGHWAY DOUGLAS COUNTY				SHEET No. 2
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
8	OREGON	I-5-3(51)125		See Index

REVISED AS CONSTRUCTED
6/14/66 CONTRACT 6279

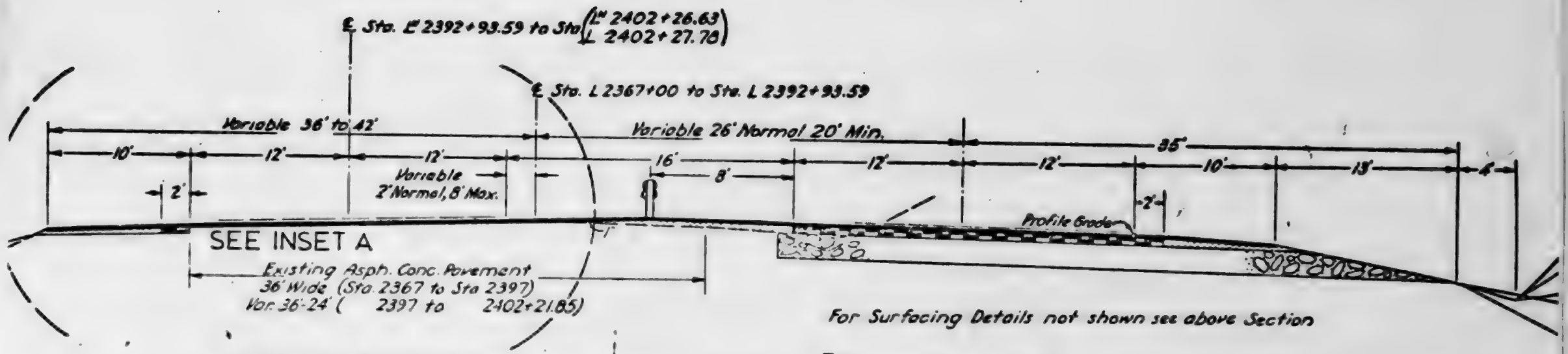


Sta. 2284+50 to Sta. 2367+00

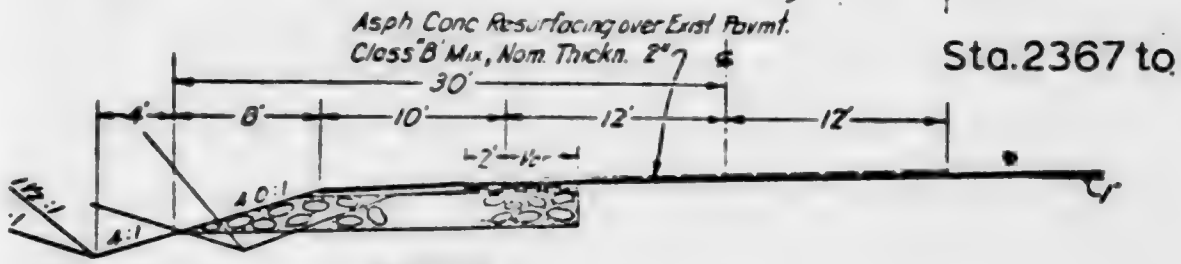
A-1-C

WINCHESTER-SOUTH UMPQUA RIV. SEC. PACIFIC HIGHWAY DOUGLAS COUNTY				SHEET No. 2
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
8	OREGON	I-5-3(51)125		Sum Index

REVISED AS CONSTRUCTED
6/14/66 CONTRACT 6273

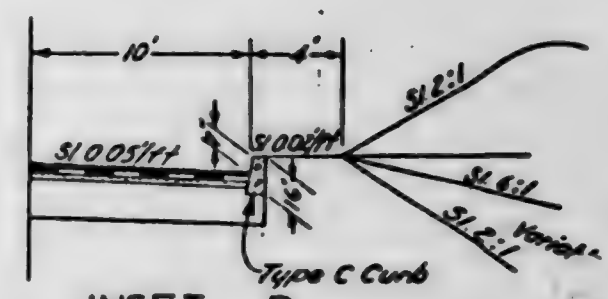


Sta. 2367 to Sta. [L 2402+26.63 / L 2402+27.78 EQ.]



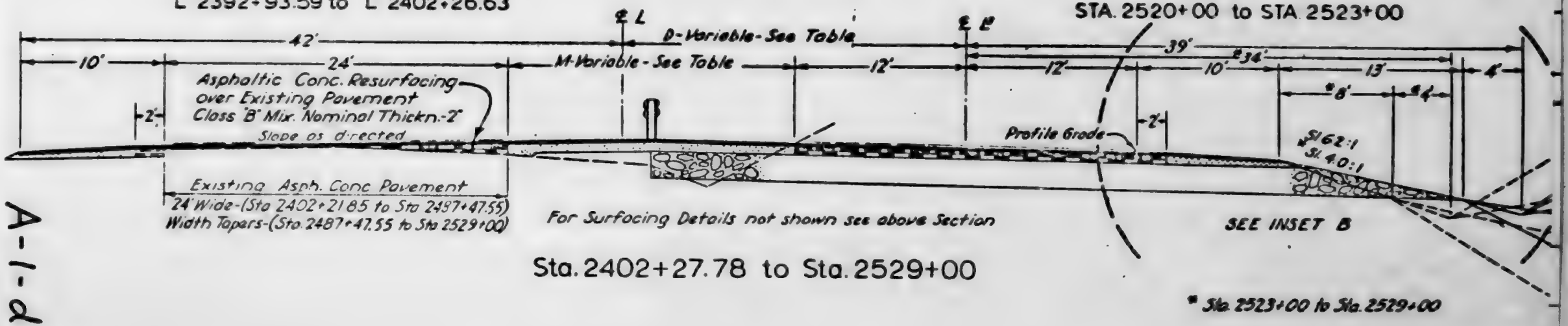
INSET A

L 2392+93.59 to L 2402+26.63



INSET B

STA. 2520+00 to STA. 2523+00



Sta. 2402+27.78 to Sta. 2529+00

* Sta. 2523+00 to Sta. 2529+00

A-1-d

Rural Engineer

CONSTRUCTION DIVISION
GEOLOGY AND SOILS SECTION
PROJECT BASE DESIGN

REVISED

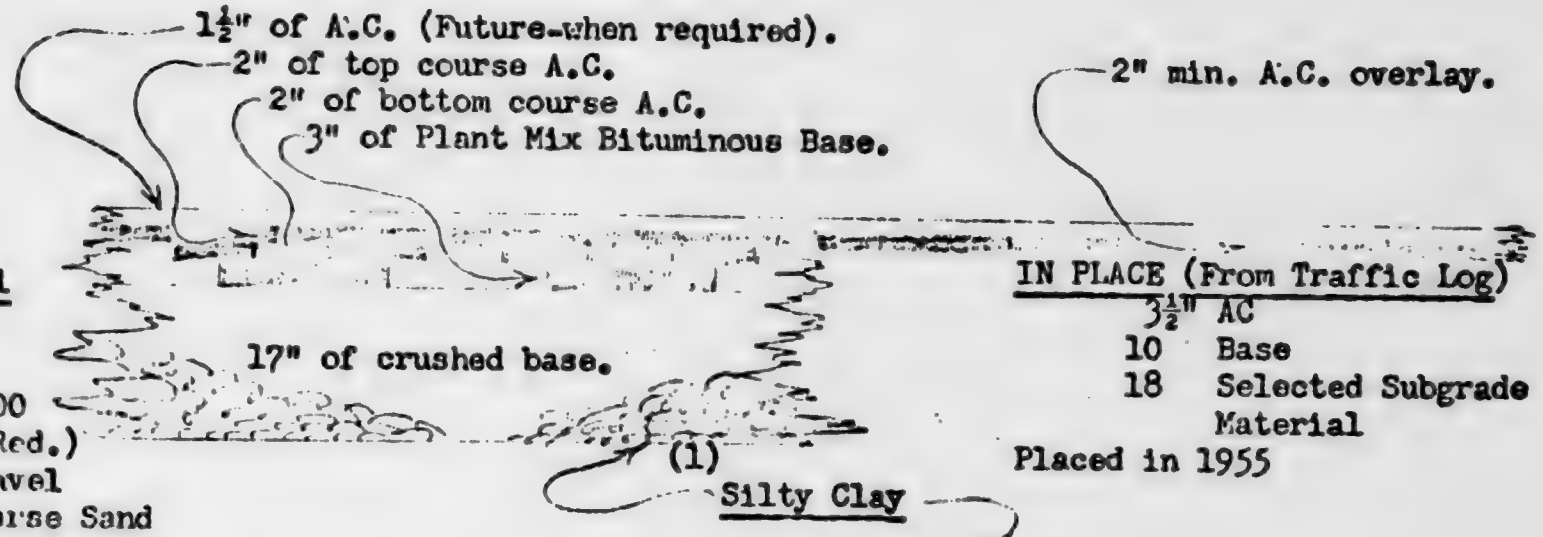
REVISED

Section WINCHESTER - S. UMPQUA RIVER Approx. Highway PACIFIC (FA 3) County DOUGLAS Prefix 610-1470

Geo. Engr. O. Lockwood Length of Project 4.62 Miles. Sta. 2285± to Sta. 2529± Date 4-30-63

TYPICAL SECTIONS Traffic Classif. - VERY HEAVY

NEW WORK



(1)

Typical Soil

52	LL
32	PI
67	% P200 (No Red.)
12	% Gravel
10	% Coarse Sand
11	% Fine Sand
24	% Silt
43	% Clay
12	"R" Value (Corrected.)

AASHO Classif. - A-7-6 (16)

EXISTING ROADWAY

IN PLACE (From Traffic Log)

3½"	AC
10	Base
18	Selected Subgrade Material

Placed in 1955

Required Base & Wear		Designed Base & Wear		
Crushed	Not Crushed	Exist. Surf. Allow.	New Work	
			4	AC
			3	PM
			17	Cr Base
			24	PRESENT
		Future	1½	AC
24			25½	FUTURE TOTAL

PROPOSED MATERIAL SOURCES

Location	Lab. No.	S.G.	Type of Material	Max. Size	% Pass No. 4 Screen	% Pass No. 40 Screen	Abrasion Loss %	Sodium Sulphate Loss %	LL	PI	To be used for.
Suitable material source to be determined by the Engineer.											

Revised Project Base Design submitted to recommend the use of Plant Mix Bituminous Base. The quality of the material is generally fair if carefully selected, but zones of poor material will be encountered and should be upgraded.

B.P.R.
Test
Deputy State Highway Engineer
Construction Engineer
Engineer of Materials
Division Engineer
Resident Engineer
Office Engineer
Design Engineer
Soils Engineer Division
Chief Locating Engineer
Rural Engineer

A-1-b

Submitted by F. W. Yarbrough, Staff Assistant

Recommended by [signature], Asst Construction Engineer

Out 5-9-63

Recommended by [signature]

Approved by [signature], Deputy State Highway Engineer

A-1-b

FORM E-30 (REV. 10-68)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
December 18, 1972

To: Victor D. Wolfe
Location Engineer
O F F I C E

SUBJECT: Interstate Overlay Need Study;
Winchester-South Umpqua River
Section.
Base Course on Existing I-5
North Bound Lanes.

Attached is test report #72-30973 which contains crushed base equivalent values (CBE) for stone base as constructed in 1954 on subject project. Review of our files for Contract #4058 and test results for the recently sampled pit run aggregate indicate a 0.5 CBE bottom course base (3"-0) and 1.0 CBE top course base (3/4"-0).

JOHN C. JENKINS
Engineer of Materials & Research

By J. E. Wilson

J. E. WILSON, Jr.
Asst. Engineer of Materials
and Research

Attachment

JEW:eb

cc: C. T. Keasey
J. H. Versteeg
C. J. Gregg

REFERRED TO Yarbrough

RECEIVED
DEC 19 1972
LOCATION
SECTION

A-2

GPO 826-725-724

FORM S-90-E 10-67

OREGON STATE HIGHWAY DIVISION
INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
December 20, 1972

To: Victor D. Wolfe
Location Engineer
O F F I C E

SUBJECT: Deady-S. Umpcua River Section; Existing I-5 North Bound Asphalt Concrete, overlayed on Contract #6275; N.B. Base from Deady-Winchester with Winchester-S. Umpqua on Contract #4058.

Attached are test reports #72-3112A-5 which contain crushed base equivalent values (CBE) for stone base, and asphalt concrete as constructed in 1954-5 on subject project. Review of our files for Contract #4157 and test results for the recently sampled pit run aggregate indicate a 1.7 CBE asphalt concrete, 0.5 CBE bottom course base (3"-0) and 1.0 CBE top course base (3/4"-0).

JOHN C. JENKINS
Engineer of Materials & Research

By
J. E. Wilson

J. E. WILSON, Jr.
Asst. Engineer of Materials
and Research

Attachment

JEWtsb

cc: C. T. Keasey
J. H. Versteeg
C. J. Gregg

A-2-a

FORM S-20 (REV. 10-60)

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon
April 21, 1972

To: Mr. Victor D. Wolfe
Location Engineer
O F F I C E

SUBJECT: Interstate Overlay Need Study
Winchester-S. Umpqua River Sec.
I-5 (Overlay of N. Bound AC and
Stone Base, PM88 and AC on S.
Bound)

Attached are test reports #992879-80 and #995251 which contain crushed base equivalent values (CBE) for stone base, plant mix bituminous base and asphalt concrete as constructed in 1963-4 on subject project. Review of our files for Contract #6275 and test results for the recently sampled pavement and pit run aggregate indicate a 1.0 CBE crushed aggregate base, 1.8 CBE plant mix bituminous base and a 1.7 and 1.8 CBE asphalt concrete pavement.

JOHN C. JENKINS
Engineer of Materials & Research

By
JAMES E. WILSON, Jr.
Asst. Engineer of Materials
and Research

Attachment

JEW:eb

cc: C. T. Keasey
J. H. Versteeg
C. J. Gregg

RECEIVED
APR 24 1972
LOCATION
SECTION

AGREED TO Gregg
Your recommendation

A-2-b

Form E-62—524-1-62

OREGON STATE HIGHWAY DEPARTMENT
MATERIALS DIVISION LABORATORY RECORD

Laboratory No. 992879
Data Sheet No. 62326
Prefix 610-1994-910
Amount charge $937.00
Dept. invoice No.
Date received Jan. 5, 1972
Date reported April 21, 1972

Pavement Evaluation-Core Test Data-Wearing Surface

Project Winchester-South Umpqua
Highway Pacific
Contractor Morse Bros. (Overlay) Completed Dec. 1964 No. 6275
Submitted by Elliott Parker
Source of material Existing Roadway sampled Jan. 1972 from pavement constructed in 1964.
Sampled or inspected at Aggregate from Winchester Bar, Asphalt-Douglas 85-100 To be used Class "B" AC
Sampled or inspected by W. H. Beal Quantity represented

Sample No.	326-1-T	326-2-T	326-3-T	326-4-T
Station	M.P. 192.0	M.P. 190.3	M.P. 190.3	M.P. 192.0
Lane	N.B.	N.B.	S.B.	S.B.
Test Pavement Thickness	1.7"	1.8"	1.8"	2.0"
Overlay Patch Thickness	-	-	-	-
Gradation of Core				
Percent ret 1"	0	0	0	0
" (3/4"-1/4")	35.7	40.0	40.4	34.7
" (1/4"-#10)	28.5	25.3	27.2	27.8
" (#10-#40)	15.8	17.1	18.3	17.7
" (#40-#200)	8.6	7.9	9.0	8.7
" (Pass #200)	5.7	4.5	5.2	5.1
Asphalt Content, Percent	5.7	5.2	5.9	6.1
Reclaimed Asphalt, Pen @ 77°F.	14	9	15	16	21
Core, Lane Location	- -	- -	- -	- -	- -
Bulk Sp. Gravity in place	2.30 2.32	2.27 2.26	2.29 2.28	2.30 2.32
Bulk Sp. Gravity recompacted	2.37 2.41	2.36 2.34	2.37 2.38	2.39 2.39
Percent Relative Compaction	97.0 96.3	96.2 96.6	96.6 95.8	96.2 97.1
Percent Voids in place	6.9 7.6	8.8 8.9	8.4 8.4	6.9 6.9
Percent Voids Recompacted	4.0 4.0	5.2 5.6	5.2 4.4	3.2 4.0

REPORT TO:

0 Bureau of Public Roads
X 0 Construction Engineer
0 Maintenance Engineer
0 Bridge Engineer
0 Requisition Office
X 0 Division Engineer Versteeg
0 Resident Engineer
0 Dist. Maint. Supt.
0 Foreman
X 0 Files
X Soils & Geology
X Parker

RECOMMENDATION:

Material as represented by this sample does, does not comply with specifications. Test results indicate that the wearing surface was constructed in 1964 to satisfy our current requirements for gradation, asphalt content, compaction and void content.

A-2-C

Form 2-60-52-1-65

OREGON STATE HIGHWAY DEPARTMENT
MATERIALS DIVISION LABORATORY RECORD

Laboratory No. 992879
Data Sheet No. 62326
Prefix 610-1994-910
Amount charge
Dept. Invoice No.
Date received Jan. 5, 1972
Date reported April 21, 1972

Pavement Evaluation-Core Test Data-Base, Aph. Concrete

Project Winchester-South Umpqua
Highway Pacific
Contractor Morse Bros. (Overlay) Completed Dec. 1964 No. 6275
Submitted by Elliott Parker
Source of material Existing Roadway sampled Jan. 1972 from pavement constructed in 1964. Aggregate from Winchester Bar, Asphalt is Douglas 85-100
Sampled or inspected at To be used Class "B" AC
Sampled or inspected by W. H. Beal Quantity represented

Sample No.	326-1-B	326-2-B	326-3-B	326-4-B
Station	M.P. 192.0	M.P. 190.3	M.P. 190.3	M.P. 192.0
Lane	N.B.	N.B.	S.B.	S.B.
Test Pavement Thickness	2.0"	2.2"	1.9"	2.0"
Overlay Patch Thickness	-	-	-	-
Gradation of Core				
Percent ret 1"	0	0	0	0
" (3/4"-1/4")	41.2	43.0	32.1	39.2
" (1/4"-#10)	25.6	23.8	27.2	26.1
" (#10-#40)	15.1	17.0	20.3	16.7
" (#40-#200)	7.9	7.4	10.0	8.2
" (Pass #200)	4.6	4.1	3.9	4.0
Asphalt Content, Percent	5.6	4.7	6.5	5.8
Reclaimed Asphalt, Pen @ 77°F.	16	13	17	34
Core, Lane Location	- -	- -	- -	- -
Bulk Sp. Gravity in place	2.16 2.19	2.18 2.24	2.23 2.20	2.30 2.30
Bulk Sp. Gravity recompacted	2.32 2.33	2.29 2.32	2.34 2.33	2.39 2.38
Percent Relative Compaction	93.1 94.0	95.2 96.6	95.3 94.4	96.2 96.6
Percent Voids in place	12.9 12.7	12.8 10.8	10.1 10.6	6.5 6.5
Percent Voids Recompacted	6.4 7.2	8.4 7.6	5.6 5.3	2.8 3.2

REPORT TO:

- 0 Bureau of Public Roads
- X 0 Construction Engineer
- 0 Maintenance Engineer
- 0 Bridge Engineer
- 0 Requisition Office
- X 0 Division Engineer Versteeg
- 0 Resident Engineer
- 0 Dist. Maint. Supt.
- 0 Foreman
- X 0 Files
- X Soils & Geology
- X Parker

RECOMMENDATION:

Material as represented by this sample does, does not comply with specifications. Test results indicate that asphalt content of the base course is below that recommended on design #995251. The low asphalt content resulted in high void content and reduced pavement durability.

A-2-d

Form 5-62-61-1-62

OREGON STATE HIGHWAY DEPARTMENT
MATERIALS DIVISION LABORATORY RECORD

Laboratory No. 992879
Data Sheet No. 62326
Prefix 610-1994-910
Amount charge
Dept. invoice No.
Date received Jan. 5, 1972
Date reported April 21, 1972

Pavement Evaluation-Core Test Data-Plant Mixed Bituminous Base

Project Winchester-South Umpqua
Highway Pacific
Contractor Morse Bros. (Overlay) Completed Dec. 1964 No. 6275
Submitted by Elliott Parker
Source of material Existing Roadway sampled Jan. 1972 from PM88 constructed in 1964. Aggregate from Winchester Bar, Asphalt is Douglas 85-100
Sampled or inspected at To be used PM88
Sampled or inspected by J. H. Beal Quantity represented

Sample No.	326-3-88	326-4-88		
Station	M.P. 190.3	M.P. 192.0		
Lane	S.B.	S.B.		
Test Pavement Thickness	3.5"	3.6"		
Overlay Patch Thickness	0.9"	-		
Gradation of Core				
Percent ret 1"	0	0		
" (3/4"-1/4")	47.1	40.0		
" (1/4"-#10)	21.7	24.9		
" (#10-#40)	14.3	16.9		
" (#40-#200)	7.5	7.9		
" (Pass #200)	4.9	5.2		
Asphalt Content, Percent	4.5	5.1		
Reclaimed Asphalt, Pen @ 77°F.	26	24		
Core, Lane Location	-	-	-	-
Bulk Sp. Gravity in place	2.32	2.31	2.21	2.21
Bulk Sp. Gravity recompacted	2.37	2.37	2.30	2.30
Percent Relative Compaction	97.9	97.5	96.1	96.1
Percent Voids in place	8.7	8.0	11.6	12.3
Percent Voids Recompacted	6.7	5.6	8.0	8.7

REPORT TO:

0 Bureau of Public Roads
X0 Construction Engineer
0 Maintenance Engineer
0 Bridge Engineer
0 Requisition Office
X0 Division Engineer Versteeg
0 Resident Engineer
0 Dist. Maint. Supt.
0 Foreman
X0 Files
X Soils & Geology
X Parker

RECOMMENDATION:

Material as represented by this sample does, does not comply with specifications. Test results indicate that th PM88 constructed in 1964 satisfies our current specification and design requirements.

A-2-e

Form 5-61—5M—1-64

OREGON STATE HIGHWAY DEPARTMENT
Materials Division
Laboratory Report

Project	Winchester-South Umpqua River Interstate Overlay Need Study	Prefix No.	610-1994-910
Highway	Pacific	County	Douglas
Contractor	Babler Bros. Inc. Contract No. 4058	F.A. Project No.	
Submitted by	Elliott Parker Completed 11-2-54	Date Reported	Dec. 18, 1972
		Laboratory Charges	$5.00

REPORT ON SAMPLE OF AGGREGATE

Source of material	N.W. 1/4 Sec. 25, R. 6W, T. 26S.		
		Sampled at	Winchester Bar on N. Umpqua River
To be used	Base Course	Date received	Dec. 14, 1972
Sampled by	W. H. Beal	Quantity represented	
Date Sampled			
Sample No.	1-2-3-4A		

TEST RESULTS Copy of test report #992680 for I.D.N.E. Contract #6275

Laboratory No.	72-30973	Type of material	Gravels, Bar Run
Data Sheet No.	523258	Screen opening Square	

GRANULOMETRIC ANALYSIS

Retained on Sieve	Per cent Single Sieve	Per cent Accumulative	Percent Passing
5	0	0	
4	4	4	
3	7	11	
2	8	19	
1½	7	26	
1	10	36	
3/4	6	42	
1/2	8	50	
3/8	6	56	
1/4	6	62	
4	4	66	
10	9	75	
40	18	93	
80	4	97	
200	2	99	
P200	1.5	1.5	
Total	100.0		

Abrasion, per cent wear, Los Angeles Rattler	A- 17.96	
Specific gravity (Le Chatelier)	Bulk Gr. 2.55 SSD: 2.62	
Unit weight, dry rodded, lbs. per cubic foot		
Unit weight, loose, lbs. per cubic foot		
Fineness factor		
Sodium sulfate test, % Loss	1½-3/4	4.34
	3/4-3/8	3.49
	3/8-4	9.37
Plasticity index: Natural fines	14	%
Manufactured fines		%
Liquid limit: Natural fines	38	%
Manufactured fines		%
Fracture		%
Sand equivalent		
Oregon degradation: Pass No. 20		%
Height		in.
Strength test, per cent of standard mortar:		
Compression		%
Organic Material, color plate No.		
	Absorp. 2.97	

P200

Material as represented by this sample (does) (does not) comply with specifications. Review of Contract #4058 records and the above test results indicate that aggregate used in base construction is of a 0.5 crushed base equivalent quality for the 3"-0 bottom course (fracture and degradation deficiency) and 3/4"-0 top course is of a 1.0 CBE.

Degrades 1"-1/4"

Bag #	%P#20	Height
1	20.13	2.1
2	20.63	2.0
3	23.87	2.2
4	20.73	2.1
5	22.29	2.1

TEST REPORT DISTRIBUTION:

- Bureau of Public Roads
- X Construction Engineer
- Maintenance Engineer
- Bridge Engineer
- Requisition Office
- X Division Engineer Versteeg
- Resident Engineer
- Dist. Maint. Supt.
- Geologist DeSerano
- X Files
- X Parker
- X Geology & Soils

Engineer of Materials

A-2-f

Form 2-61—50M—1-64

OREGON STATE HIGHWAY DEPARTMENT
Materials Division

Laboratory Report

Project	Interstate Overlay Need Study Deady-S. Umpqua River	Prefix No.	610-1994-910
Highway	Pacific	County	Douglas
Contractor	E.C. Hall-J. C. Compton	Contract No. 4157	F.A. Project No.
Submitted by	Elliott Parker	Date Reported	Dec. 20, 1972
		Laboratory Charges	$5.00

REPORT ON SAMPLE OF AGGREGATE

Source of material NW ¼, Sec. 25, R. 6W, T. 26S

Sampled at Winchester Bar on N. Umpqua River

To be used	Base-Asphalt Concrete	Date received	Dec. 19, 1972
Sampled by	W. H. Beal	Quantity represented	
Date Sampled			
Sample No.	1-2-3-4A		

TEST RESULTS This report is a copy of #992380 for I.O.N. on Contract #627

Laboratory No.	72-31125
Data Sheet No.	62326A
Type of material	Gravels Bar Run
Screen opening	Square

GRANULOMETRIC ANALYSIS

Retained on Sieve	Per cent Single Sieve	Per cent Accumulative	Percent Passing
5	0	0	
4	4	4	
3	7	11	
2	8	19	
1½	7	26	
1	10	36	
3/4	6	42	
1/2	8	50	
3/8	6	56	
1/4	6	62	
4	4	66	
10	9	75	
40	18	93	
80	4	97	
200	2	99	
P200	1.5	1.5	
Total	100.0		
~~P200~~ T-11		5.5	

Abrasion, per cent wear. Los Angeles Rattler -A-	17.96	
Specific gravity (Le Chatelier) Bulk Gr. 2.55 SSD: 2.62		
Unit weight, dry rodded, lbs. per cubic foot		
Unit weight, loose, lbs. per cubic foot		
Fineness factor		
Sodium sulfate test, % Loss 1½-3/4	4.34	
3/4-3/8	3.49	
3/8-4	9.37	
Plasticity index: Natural fines	14	%
Manufactured fines		%
Liquid limit: Natural fines	38	%
Manufactured fines		%
Fracture		%
Sand equivalent		
Oregon degradation: Pass No. 20		%
Height		in.
Strength test, per cent of standard mortar:		
Compression		%
Organic Material, color plate No.		
Absorp. 2.87		

Material as represented by this sample (does) (does not) comply with specifications. Review of Contract #4157 record and the above test results indicate that aggregate used in base construction is of a 0.5 crushed base equivalent cuality for the 3"-0 bottom course (fracture, cleanliness, gradation deficiency) and 3/4"-0 top course is of a 1.0 CBE.

Degrades 1"-1/4"

Bag #	%P#20	Height
1	20.13	2.1
2	20.63	2.0
3	23.87	2.2
4	20.73	2.1
5	22.29	2.1

TEST REPORT DISTRIBUTION:

- Bureau of Public Roads
- X Construction Engineer
- Maintenance Engineer
- Bridge Engineer
- Requisition Office
- X Division Engineer Versteeg
- Resident Engineer
- Dist. Maint. Supt.
- Geologist DeSerano
- X Files
- X Geology and Soils
- X Parker

Engineer of Materials

A-2-9

Form E-61—356—8-71

OREGON STATE HIGHWAY DIVISION
Materials Section

Laboratory Report

Project	Winchester-S. Umpqua R.	Prefix No.	610-1994-910
Highway	Pacific	County	Douglas
Contractor	Morse Bros. Inc.	Completed Dec. 196 Contract No. 6275	F.A. Project No.
Submitted by	Elliott Parker	Date Reported	April 21, 1972
		Laboratory Charges	

REPORT ON SAMPLE OF AGGREGATE

Source of material	Winchester Bar NW¼, Sec. 25, R.6W, T.25S	Sampled at	Source
To be used	A/C	Date received	Feb. 17, 1972
Sampled by	W. H. Beal	Quantity represented	
Date Sampled	Feb. 14, 1972		
Sample Number	6-15		

TEST RESULTS

Laboratory No.	995251	Type of material	Bar Run Gravels
Data Sheet No.	62333	Screen opening Square	

GRANULOMETRIC ANALYSIS

Retained on Sieve	Per cent Single Sieve	Per cent Accumulative	Percent Passing
5	0	0	
4	1	1	
3	9	10	
2	9	19	
1½	7	26	
1	11	37	
3/4	7	44	
1/2	8	52	
3/8	4	56	
1/4	5	61	
4	3	64	
10	6	70	
40	16	86	
80	7	93	
200	3	96	
P200	4.0	4.0	
Total	100.0		

P200 T-11 3.2%

Abrasion, per cent wear, Los Angeles Rattler		
Specific gravity (Le Chatelier) Bulk Gr. 2.53 SSD: 2.6		
Unit weight, dry rodded, lbs. per cubic foot		
Unit weight, loose, lbs. per cubic foot		
Fineness factor		
Sodium sulfate test, per cent loss		
Asphalt stripping: Natural fines		
Manufactured fines		
Plasticity index: Natural fines	12	%
Manufactured fines		%
Liquid limit: Natural fines	33	%
Manufactured fines		%
Fracture		%
Sand equivalent	18	
Oregon degradation: Pass No. 20		%
Height		in.
Strength test, per cent of standard mortar:		
Compression		%
Organic Material, color plate No.		
Absorp. 2.94%		

Material as represented by this sample (does) (does not) comply with specifications.

See Test Report #992880

TEST REPORT DISTRIBUTION:

- FHWA
- X Construction Engineer
- Maintenance Engineer
- Bridge Engineer
- Requisition Office
- X Regional Engineer Versteeg
- Resident Engineer
- District Engineer
- Region Geologist
- X Geology and Soils
- X Files
- X Parker

BP*66045-734

Engineer of Materials

A-2 h

2.1

Engineer of Materials

A-2-i

Form E-61—3M—8-71

OREGON STATE HIGHWAY DIVISION
Materials Section

Laboratory Report

Project	Winchester - South Umpqua	Prefix No.	610-1994-910
Highway	Pacific	County	Douglas
Contractor	Morse Bros. (Overlay) Contract No. 6275	F. A. Project No.	
Submitted by	Elliott Parker	Date Reported	April 21, 1972
		Laboratory Charges	

REPORT ON SAMPLE OF AGGREGATE

Source of material	N.W. 1/4 Sec. 25, R.6W. T.26S	Sampled at	Winchester Bar on N. Umpqua Rive
To be used	In A/C Overlay	Date received	Jan. 5, 1972
Sampled by	W. H. Beal	Quantity represented	
Date Sampled			
Sample Number	1-2-3-4A		

TEST RESULTS

Laboratory No. 992880
Data Sheet No. 62326A
Type of material Gravels Bar Run
Screen opening Square

GRANULOMETRIC ANALYSIS

Retained on Sieve	Per cent Single Sieve	Per cent Accumulative	Percent Passing
5	0	0	
4	4	4	
3	7	11	
2	8	19	
1½	7	26	
1	10	36	
3/4	6	42	
1/2	8	50	
3/8	6	56	
1/4	6	62	
4	4	66	
10	9	75	
40	18	93	
80	4	97	
200	2	99	
P200	1.5	1.5	
Total	100.0		
P200 — T-11		5.5	

Abrasion, per cent wear, Los Angeles Rattler -A-		17.96
Specific gravity (Le Chatelier) Bulk Gr. 2.55 SSD: 2.62		
Unit weight, dry rodded, lbs. per cubic foot		
Unit weight, loose, lbs. per cubic foot		
Fineness factor		
Sodium sulfate test, per cent loss	1½-3/4	4.34
	3/4-3/8	3.49
	3/8-4	9.37
Plasticity index: Natural fines	14	%
Manufactured fines		%
Liquid limit: Natural fines	38	%
Manufactured fines		%
Fracture		%
Sand equivalent		
Oregon degradation: Pass No. 20		%
Height		in.
Strength test, per cent of standard mortar:		
Compression		%
Organic Material, color plate No.		
Absorp. 2.87		

Material as represented by this sample (does) (does not) comply with specifications. Review of Contract #6275 records and the above test results indicate that crushed aggregate base was constructed with material of a 1.0 CBE quality.

Degrades 1"-1/4"

Bag #	%P#20	Height
1	20.13	2.1
2	20.63	2.0
3	23.87	2.2
4	20.73	2.1
5	22.29	2.1

Engineer of Materials

TEST REPORT DISTRIBUTION:

FHWA
X Construction Engineer
Maintenance Engineer
Bridge Engineer
Requisition Office
X Regional Engineer Versteeg
Resident Engineer
District Engineer
Region Geologist
X Geology and Soils
X Files
X Parker

BP*65045-T24

A-2-i

OREGON STATE HIGHWAY DIVISION
MATERIALS SECTION

Laboratory No. T31124
Data Sheet No. 62333
Prefix 610-1044-910
Amount Charge [illegible]
Date Received
Date Reported Dec. 20, 1972

Pavement Evaluation—
~~PRELIMINARY~~ BITUMINOUS MIXTURE DESIGN

Interstate Overlay Need Study
Project Deady - Siuslaw R.
Contractor: Prime E.C. Hall - S.C. Compton Contract No. 4157 Fed. Aid No. IFI-199(17)+72(21)
Paving Cameron
Engineer: Region Eugene Mix Type-Class B - Asphaltic Concrete
Aggregate: Source Mill ... River 0.75 mi. U/S of MP 193.5 Winchester Bay Resident Albany - Kratsch
Asphalt: Brand Pacific-Standard; Texaco-Douglas-Chevron Type Grade RS-1

MIX DESIGN PROPORTIONS: Copy of mix used on Proj. S-225 Sec. - Co. Line - Cantrell #6275

Agg. Size	Contract No. 6275			Comb. Agg. Dry Sieve	Gradation - test sample washed by Rotarex	RECOMMENDED MIX PROPORTIONS			
% Comb.	B.t.Agg.					Wearing Surface	Base Course	Shoulder Course	F.M.S.B. Course
1									
¾									
½	13.3			14.1	14.0	13.2	13.1		
3/8				11.3	11.3	10.6	10.6		
¼	21.4			11.3	11.3	10.6	10.6		
4	11.9			12.6	12.6	11.9	11.8		
10	13.2			14.0	13.9	13.1	13.0		
40	16.1			17.1	17.0	16.0	15.8		
200	14.3			15.2	15.0	14.1	14.0		
P200	4.1			4.4	4.9	4.6	4.6		
Comm. #1	5.7								
Asphalt Content including 0.3 Retention						*5.9	*6.5		

* Recommended asphalt content 30% min. retained AASHO T-165 test requirements, Sect. 703.05

COMPACTION CONTROL AND VOID CONTENT DATA:

Mix type - Course	Wearing	Base	Shoulder	F.M.S.B.
Bulk Sp. Gravity @ 100% Compaction	2.35	2.37		
Mix Design % Voids @ 100% Compaction	4.0	2.1		

MIX DESIGN TEST DATA: Temperature of Mixture when mixed - 280°F.
Resistance to Deformation and Cohesion: (ASTM-D1560 and 1561)

Asphalt Content (%) Douglas RS-1 (D)	5.0	5.5	6.0	6.5	7.0
" Film Thickness	Dry	Dry-Surf.	Surf.	Surf.	Surf-Tack
Stability Value @ 1st Compaction	47	46	46	37	24
Cohesion " " " "	356	270	437	521	622
Bulk Sp. Gravity @ 1st Compaction	2.26	2.28	2.30	2.32	2.32
Percent Voids " "	3.9	3.3	3.7	4.1	2.7
Stability Value @ 2nd Compaction	46	41	52	47	19
Bulk Sp. Gravity @ 2nd Compaction	2.31	2.33	2.35	2.37	2.37
Percent Voids " " "	6.9	5.3	5.7	2.1	1.2
Real Gravity @ 0% Voids	2.43	2.42	2.44	2.42	2.40

Effect of Water on Cohesion: (AASHO-T-165)

Asphalt Content (%) Douglas RS-1 (D)	5.0	6.0	7.0
Index of Ret. Str. (%)	35	53	91

Review of contract #4157 records, Test report S-2-3.25 and the above test results indicate that asphalt concrete constructed in 1954-5 does not satisfy requirements for wet strength retention (Section 703.08-c) and asphalt content. Strength retention at the average top and base course asphalt contents of 5.5, 5.7% are 48% and 50%. Since these deficiencies result in reduced pavement durability, the as constructed asphalt concrete is of a 1.7 crushed base equivalent quality.

FWHA
X Construction
Maintenance
Regional Engineer
Regional Maint. Eng.
Resident Engineer
X Soils & Geology
Regional Geologist
X Files
X Versteeg
X Parker

[illegible]
Engineer of Materials

A-2-i

OREGON STATE HI AY DIVISION
MATERIALS SECTION

Pavement Evaluation
~~PRELIMINARY~~ BITUMINOUS MIXTURE DESIGN

Laboratory No. 995251
Data Sheet No. 62383
Prefix 610 - 1[illegible]-710
Amount Charged $ 326.50
Date Received 2/17/72
Date Reported April 21, 1972

Project Winchester - So. Umpqua Mix Type-Class "B" F/C
Contractor: Prime Morse Bros Inc. Contract No. 6275 Fed. Aid No. F-S-S(51) 125
Paving Morse Bros Inc Completed: Dec. 1964
Engineer: Region J.H. Versteeg Resident
Aggregate: Source 0.6 mi. West of Winchester, Winchester Pit Type Gravel
Asphalt: Brand Douglas Grade 85/100

MIX DESIGN PROPORTIONS:

Agg. Size	Contract No. 6275			Comb. Agg. Dry Sieve Gradation		RECOMMENDED MIX PROPORTIONS - test sample washed by Rotarex			
% Comb.	Pit Agg					Wearing Surface	Base Course	Shoulder Course	P.M.S.S. Course
1									
¾									
½	13.3			14.1	14.0	13.2	13.1		
3/8				11.3	11.3	10.6	10.6		
¼	21.4			11.3	11.3	10.6	10.6		
4	11.9			12.6	12.6	11.9	11.8		
10	13.2			14.0	13.9	13.1	13.0		
40	16.1			17.1	17.0	16.0	15.8		
200	14.3			15.2	15.0	14.1	14.0		
P200	4.1			4.4	4.9	4.6	4.6		
~~Moisture~~ %	5.7								
Asphalt Content Including 0.3 % Retention						5.9	6.5		

COMPACTION CONTROL AND VOID CONTENT DATA:

Mix type - Course	Wearing	Base	Shoulder	P.M.S.S.
Bulk Sp. Gravity @ 100% Compaction	2.35	2.37		
Mix Design % Voids @ 100% Compaction	4.0	2.1		

MIX DESIGN TEST DATA: Temperature of Mixture when mixed - 280°F.
Resistance to Deformation and Cohesion: (ASTM-D1560 and 1561)

Asphalt Content (%) Douglas 85/100	5.0	5.5	6.0	6.5	7.0
" Film Thickness	Dry	Dry-Suff.	Suff.	Suff.	Suff-Tack
Stability Value @ 1st Compaction	47	46	46	39	24
Cohesion " " " "	356	380	457	521	622
Bulk Sp. Gravity @ 1st Compaction	2.26	2.28	2.30	2.32	2.33
Percent Voids " " "	8.9	7.8	5.7	4.1	2.7
Stability Value @ 2nd Compaction	66	61	53	47	10
Bulk Sp. Gravity @ 2nd Compaction	2.31	2.33	2.35	2.37	2.37
Percent Voids " " "	6.9	5.8	3.7	2.1	1.2
Real Gravity @ 0% Voids	2.48	2.46	2.44	2.42	2.40

Effect of Water on Cohesion: (AASHO-T-165)

Asphalt Content (%) Douglas 85/100	5.0	6.0	7.0
Index of Ret. Str. (%)	35	53	81

FWHA
X Construction
Maintenance
Versteeg Regional Engineer
Regional Maint. Eng.
Resident Engineer
X Soils & Geology
Regional Geologist
X Files
X Parker

Review of contract #6275 records, the above test results and reports #992879-80 indicate that the asphalt concrete constructed in 1964 satisfies all current specification requirements except wet strength retention (Section 703.09-a) and base course asphalt contents. Since these deficiencies result in reduced pavement durability the asphalt concrete as constructed is of a 1.5 CSE quality for wearing surface and 1.7 for base course.

[signature]
Engineer of Materials

A-2-k

OREGON STATE HIGHWAY DIVISION
MATERIALS SECTION

Pavement Evaluation
~~PRELIMINARY~~ BITUMINOUS MIXTURE DESIGN

Laboratory No. 993251
Data Sheet No. 62333
Prefix 610-14901-910
Amount Charge
Date Received 2/17/72
Date Reported April 21, 1972

Project Winchester - So. Umpqua Mix Type-Class PMCC (3/4-D)
Contractor: Prime Morse Bros. Inc. Contract No. 6225 Fed. Aid No. I-5-3 (51) 125
Paving Morse Bros. Inc. Completed Dec. 1964
Engineer: Region J. H. VerSteeg Resident
Aggregate: Source 0.6 mi. West of Winchester, Winchester Bar Type Gravel
Asphalt: Brand Douglas Grade AC/10)

MIX DESIGN PROPORTIONS:

Agg. Size	Contract No. 6225			Comb. Agg. Dry Sieve	Comb. Agg. Dry Gradation	RECOMMENDED MIX PROPORTIONS - test sample washed by Rotarex			
% Comb.	E.T. Ave.					Wearing Surface	Base Course	Shoulder Course	P.M.C.C. Course
1									
¾	1.9			2.0	2.0				1.9
½	14.6			15.3	15.2				14.4
3/8	11.6			12.2	12.1				11.5
¼	15.4			16.2	16.1				15.3
4	8.6			9.1	9.1				8.6
10	16.4			17.2	17.1				16.2
40	15.7			16.5	16.4				15.6
200	6.0			6.3	6.4				6.1
P200	4.9			5.2	5.6				5.3
~~No. Ave.~~ 4/6	5.1								
Asphalt Content Including 2.2 %Retention									5.0

COMPACTION CONTROL AND VOID CONTENT DATA:

Mix type - Course	Wearing	Base	Shoulder	P.M.C.C.
Bulk Sp. Gravity @ 100% Compaction				2.32
Mix Design % Voids @ 100% Compaction				—

MIX DESIGN TEST DATA: Temperature of Mixture when mixed - 280°F
Resistance to Deformation and Cohesion: (ASTM-D1560 and 1561)

Asphalt Content (%) Douglas AC/10	4.5	5.5	6.5	7.5	
" Film Thickness	Dry-Soft.	Soft.	Soft-Thick	Thick	
Stability Value @ 1st Compaction	35	36	34	41	
Cohesion " " " "	280	350	475	414	
Bulk Sp. Gravity @ 1st Compaction	2.24	2.23	2.32	2.34	
Percent Voids " " "	11.1	8.1	4.9	2.5	
Stability Value @ 2nd Compaction	52	47	43	29	
Bulk Sp. Gravity @ 2nd Compaction	2.30	2.34	2.35	2.37	
Percent Voids " " "	8.7	5.6	2.5	0.4	
Real Gravity @ 0% Voids	2.52	2.48	2.44	2.40	

Effect of Water on Cohesion: (AASHO-T-165)

Asphalt Content(%) Douglas AC/10	4.5	5.5	6.5	7.5
Index of Ret. Str. (%)	78	94	100+	100+

Review of contract #6225 records, the above test results and reports #992-879-80 indicate that the PMCC constructed in 1964 satisfies all current specifications and design requirements. The PMCC as constructed is of a 1.8 CBE quality.

FWHA
X Construction
Maintenance
Versteeg Regional Engineer
Regional Maint. Eng.
Resident Engineer
X Soils & Geology
Regional Geologist
X Files
X Parker

Engineer of Materials

A-2-e

TRAFFIC ANALYSIS

SECTION: Winchester-Garden Valley Rd.

HIGHWAY: Pacific (FAR 3)

COUNTY: Douglas

6900 Present ADT (1963)

13.5 Percent Trucks

AXLES	TWO WAY TRUCK ADT	EXPANSION FACTOR	TOTAL TADT	MEAN TADT	ONE WAY EWL	AVERAGE ANNUAL EWL
2	160	2.60	416	288	450	129,600
3	130	2.60	338	234	1000	234,000
4	45	2.60	117	81	1250	101,250
5	590	2.60	1534	1062	3180	3,377,160
6	5	2.60	13	9	2570	23,130
				1674	TOTAL	

TOTAL AVERAGE ANNUAL DESIGN EWL 3,865,140

TWENTY YEAR EWL 77,302,800

TRAFFIC COEFFICIENT 11.3

TRAFFIC ANALYSIS

SECTION: Winchester-Garden Valley Rd.

HIGHWAY: Pacific (FAR 3)

COUNTY: Douglas

6900 Present ADT (1963)

13.5 Percent Trucks

AXLES	TWO WAY TRUCK ADT	EXPANSION FACTOR	TOTAL TADT	MEAN TADT	ONE WAY EWL	AVERAGE ANNUAL EWL
2	160	2.60	416	288	450	129,600
3	130	2.60	338	234	1000	234,000
4	45	2.60	117	81	1250	101,250
5	590	2.60	1534	1062	3180	3,377,160
6	5	2.60	13	9	2570	23,130
				1674	TOTAL	

TOTAL AVERAGE ANNUAL DESIGN EWL 3,865,140

TEN
~~TWENTY~~ YEAR EWL 38,651,400

TRAFFIC COEFFICIENT 10.4

A-3-a

Winchester-Garden Valley Road
Pacific Highway (FAR 3)
Douglas County

Mile Point	O.W.T.	I.W.T.
NB 128.50		
	0.016	0.018
	0.014	
	0.013	0.015
	0.015	
	0.022	
	0.016	0.016
	0.015	
	0.025	0.014
	0.020	
	0.022	0.018
	0.024	
	0.022	0.015
	0.023	
		0.018
SB 128.20		
	0.007	0.006
	0.008	
		0.008
	0.010	
	0.007	
	0.009	0.008
	0.012	
	0.013	0.010
	0.014	
	0.011	0.012
	0.012	
	0.012	0.011
	0.010	
		0.011
NB 127.95		
	0.020	0.022
	0.021	
	0.012	0.018
	0.025	
		0.017 Continued:

a

Winchester-Garden Valley Road
Pacific Highway (FAR 3)
Douglas County

Mile Point	O.W.T.	I.W.T.
NB 127.95 Continued:	0.008	
	0.017	
		0.016
	0.018	
	0.017	
		0.018
	0.016	
	0.016	
		0.013
	0.016	
SB 127.60		
		0.019
	0.018	
	0.017	
		0.017
	0.014	
	0.018	
		0.018
	0.020	
	0.020	
		0.019
	0.015	
	0.014	
		0.013
	0.017	
	0.013	
		0.017
NB 126.80		
		0.016
	0.024	
	0.025	
		0.021
	0.025	
	0.026	
		0.022
	0.023	
	0.025	
		0.021
	0.022	
	0.025	
		0.021
	0.024	
	0.019	
		0.017
SB 126.60		
		0.016
	0.015	
	0.015	
		0.015 Continued:

A-4-a

Winchester-Garden Valley Road
Pacific Highway (FAR 3)
Douglas County

Mile Point	O.W.T.	I.W.T.
SB 126.60 Continued:	0.017	
	0.015	
		0.016
	0.017	
	0.016	
		0.014
	0.017	
	0.018	
		0.015
	0.014	
	0.012	
		0.014
	0.013	
	0.016	
		0.014
NB 125.80		
		0.018
	0.014	
	0.018	
		0.019
	0.020	
	0.023	
		0.013
	0.015	
	0.026	
		0.024
	0.025	
	0.022	
		0.014
	0.014	
	0.010	
		0.018
	0.013	
	0.019	
		0.022
	0.019	
	0.029	
		0.026
	0.023	
	0.026	
		0.020
	0.020	
	0.032	
		0.025
	0.028	
	0.029	
		0.026 Continued:

Winchester-Garden Valley Road
Pacific Highway (FAR 3)
Douglas County

Mile Point	O.W.T.	I.W.T.
NB 125.80 Continued:	0.021	
	0.022	
		0.018
	0.018	
	0.018	
		0.022
SB 125.70		
		0.013
	0.009	
	0.013	
		0.008
		0.012
	0.010	
	0.012	
	0.011	
	0.010	
		0.009
	0.012	
	0.015	
		0.010
	0.007	
	0.010	
		0.015

TRAFFIC ANALYSIS
1963 - 1983
TWENTY YEAR DESIGN PERIOD

SECTION: Winchester-Garden Valley Road

HIGHWAY: Pacific (FAR 3)

COUNTY: Douglas

6900 Present ADT (1963)

13.5 Percent Trucks

AXLES	TWO WAY TRUCK ADT	EXPANSION FACTOR	TOTAL TADT	MEAN TADT	ANNUAL ONE WAY 18 kip s.a.	AVERAGE ANNUAL 18 kip s.a.
2	160	2.60	416	288	38.25	11,016.00
3	130	2.60	338	234	81.76	19,131.84
4	45	2.60	117	81	105.30	8,529.30
5	590	2.60	1534	1062	257.76	273,741.12
6	5	2.60	13	9	213.96	1,925.64
				1674 TOTAL		

18 kip s.a./day 861.2

TOTAL AVERAGE ANNUAL 18 kip s.a. 314,343.90

TWENTY YEAR 18 kip s.a. 6,286,878

RATIO

TRAFFIC ANALYSIS

1965 - 1970

OPENING YEAR TO YEAR PAVEMENT REACHED P_t = 2.5

SECTION: Winchester-Garden Valley Rd.

HIGHWAY: Pacific (FAR 3)

COUNTY: Douglas

6900 Present ADT (19 63)

13.5 Percent Trucks

AXLES	TWO WAY TRUCK ADT 1965	EXPANSION FACTOR	TOTAL TADT 1970	MEAN TADT 1965-1970	ANNUAL ONE WAY 18 kip s.a.	AVERAGE ANNUAL 18 kip s.a.
2	186		250	218	38.25	8,338.50
3	151		203	177	81.76	14,471.52
4	52		70	61	105.30	6,423.30
5	684		920	802	257.76	206,723.52
6	6		8	7	213.96	1,497.72
				1265	TOTAL	

18 kip s.a./day 650.6

(1965-1970) TOTAL AVERAGE ANNUAL 18 kip s.a. 237,454.56

Total (1965-1970) FIVE ~~TWENTY~~ YEAR 18 kip s.a. 1,187,273

RATIO

A-5-a

TRAFFIC ANALYSIS
1965-1983
REMAINDER OF DESIGN PERIOD AFTER OPENING

SECTION: Winchester-Garden Valley Rd.

HIGHWAY: Pacific (FAR 3)

COUNTY: Douglas

6900 Present ADT (19 63)

13.5 Percent Trucks

AXLES	TWO WAY TRUCK ADT 1965	EXPANSION FACTOR	TOTAL TADT 1983	MEAN TADT 1965-1983	ANNUAL ONE WAY 18 kip s.a.	AVERAGE ANNUAL 18 kip s.a.
2	186		416	301	38.25	11,513.25
3	151		338	245	81.76	20,031.20
4	52		117	85	105.30	8,950.50
5	684		1534	1109	257.76	285,855.84
6	6		13	10	213.96	2,139.60
				1750 TOTAL		

18 kip s.a./day 900.0

(1965-1983) TOTAL AVERAGE ANNUAL 18 kip s.a. 328,490.39

Total (1965-1983) EIGHTEEN ~~TWENTY~~ YEAR 18 kip s.a. 5,912,827

RATIO

A-5-b

Form FHWA-121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: July 23, 1974

In reply refer to: 10-41-B3

SUBJECT: Oregon Project I-5-3(-)129
Winchester-Sutherlin Section

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

I approve Mr. Versteeg's July 18 request to require the contractor to dispose of approximately 25,000 cubic yards of excess material within the limits of the project.

I understand the material will be used for slope flattening where possible.

The planned utilization or disposal of material within the project limits is part of normal design. Special approval is not normally required.

Planned disposal sites or material sources outside the project limits are desireable when significant environmental impacts exist. Generally it will be in the public interest to include these outside sites and sources in the project design so that the potential environmental impacts can be properly addressed. However each case must be evaluated and approved individually.

1 Versteeg
A. Olson
2 Terpin
Scott
copy Swenson
R. Olson
copy Trout

RECEIVED
JUL 31 1974
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up
Other

G. L. Green

RECEIVED
STATE HWY ENGR
JUL 29'74
REFER TO
FOR
Engr | Assist | Engr | Engr | Engr | Engr | File

RECEIVED
JUL 30 1974
OFFICE OF

6251

R

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

May 6, 1974

Mr. Glen L. Green
Division Engineer
Federal Highway Administration
Post Office Box 300
Salem, OR 97308

NOTED
E. S. HUNTER

NOTED
E. S. HUNTER

Dear Mr. Green:

Re: Winchester-Garden Valley Road
Pacific Highway, Douglas County

An evaluation of the overlay requirements on the subject section has been completed. Three overlay procedures, underdesign, deflection, and the "Williams Method" were used to obtain the result recommended and are included in the report.

Two copies of the overlay design analysis are attached for your review. Should any questions arise about the analysis, they will be answered promptly.

Your approval of the three-inch asphaltic concrete overlay with leveling, plus one-inch open graded plant mix seal, is requested.

Very truly yours,

Victor D. Wolfe
Location Engineer

By

W.H. Tebeau
Assistant Location Engineer

RECEIVED
MAY 6 1974
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

CJG:af jp
Attachments
cc E.S. Hunter
C.J. Gregg

#8251

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Roseburg, Oregon

April 5, 1974

FILE:

FROM: Alfred W. Bates, Resident Engineer
BY: B.D. Johnson, Assist. Res. Engr.

SUBJECT: Winchester-Garden Valley Rd. Section
Pacific Highway
Douglas County
Prefix 610-1935-901

TO: Lyle Watson, Design Section

With regards to your questions on the Winchester-Garden Valley Road Section, please be advised as follows:

(1) S.B. 2315+99 18" concrete culvert pipe- Existing ditch grade plotted on enclosed roll.

(2) S.B. 2323+64 18" concrete culvert pipe- Existing ditch grade plotted on enclosed roll.

(3) S.B. 2326+57 24" concrete culvert pipe- Existing ditch grade plotted on enclosed roll. Extend pipe 6' rather than 47'.

(4) S.B. 2335+52 18" concrete culvert pipe- Existing ditch grade plotted on enclosed roll.

(5) S.B. 2345+63 18" concrete culvert pipe- Existing ditch grade plotted on enclosed roll.

(6) S.B. 2348+10 36" concrete culvert- Existing roadside ditch and inlet ditch grade plotted on enclosed roll. Pipe being extended to eliminate hazardous roadside ~~connection~~ condition. This will take a special inlet to accommodate 36" pipe. Suggest oversize G2MA.

(7) S.B. 2350+52 24" concrete culvert pipe- Existing roadside ditch and inlet ditch grade plotted on enclosed roll. Pipe being extended to eliminate hazardous roadside condition.

(8) S.B. 2359+79 24" concrete culvert pipe- Existing roadside ditch and inlet ditch grade plotted on enclosed roll. Pipe being extended to eliminate hazardous roadside condition.

(9) N.B. 2308+91 to N.B. 2310+41- This 137.5' run of existing guardrail is buried in existing mound.

(10) N.B. 2326+57 18" concrete culvert- If the 68' proposed extension should create R/W problem, extend only to R/W line.

(11) N.B. 2364 t
not pr
this

(12) N.B. 2424 t
is n
in or
chann
coul
excav

(13) N.B. 238
cut
slop
so a

(14) Suggest jo
emba

Most of the

flared inlets t

Enclosed you

(1)

(1)

concrete pipe.

(11) N.B. 2364 to N.B. 2384 Construct 2000' guardrail- It is not practical or economical to flatten slope in this area, could have R/W problems also.

(12) N.B. 2424 to N.B. 2435 Construct channel change- This is not for borrow but to relocate existing ditch in order to flatten slopes. Should the proposed channel change cause R/W problem the channel could be narrowed, this would change class of excavation if narrowed.

(13) N.B. 2383+00 to N.B. 2397+00 Borrow area- Existing cutoff ditch should not be eliminated. Change slopes and relocate cutoff ditch (where possible) so as not to require additional R/W.

(14) Suggest job be set up for general excavation rather than embankment in place. No item for haul.

Most of the short pipe extensions are required because of flared inlets to be removed and possible damage to first joint of concrete pipe.

Enclosed you will find:

(1) one roll ditch profiles and cross-sections

(1) one book field notes

Form E-42

OREGON STATE HIGHWAY DEPARTMENT

TABULATION SHEET

SHEET ..... OF ..... SHEETS

Project Area: Winchester - Gardiner Valley 2d

Project Number:

Douglas County

South Bound

HH Oct 16, 1973

Sta	Exty Pipe Size	Extend	Install Inlet	Remarks	
2315+99	18"	8'	M-E	Exty Ditch grade	(1)
2333+64	18"	6'	M-E	Exty Ditch grade	(2)
2336+57?	24"	6' ~~FF~~	GZMH	Extend into cutbank	(3)
2335+52	18"	6'	M-E	Exty Ditch grade	(4)
2345+63	18"	6'	M-E	Exty Ditch grade	(5)
2348+10	36"	70'	GZMA	Extend into cutbank	(6)
2350+52	24"	69'	GZMH	Extend into cutbank	(7)
2359+79	24"	52'	GZMH	Extend into cutbank	(8)
	North Bound				
2305+91 to 2310+41	Exty G.L.	137.5' (1 pl)		Is this run Buried in Exty. Mound?	(9)
2326+57	18"	68'		could have R/W Problem	(10)
2364 to 2382	Const	G.R. 2000'		can we Flatten Slopes? 4:1	(11)
2424 TO 2435	Const. CL. CL.			Is this for Borrow?	(12)
2383+00 TO 2397+00	Borrow Area.			can we remove Exty cut-off Ditch?	(13)
				also should This Be a Emb.-in place data?	(14)

2251

gen. files

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

TOM McCALL
GOVERNOR

GEORGE M. BALDWIN
Administrator of Highways

July 31, 1973

TO Glen L. Green, Division Engineer
Federal Highway Administration

FROM R. L. Schroeder
R. L. Schroeder
Assistant State Highway Engineer

SUBJECT Winchester-Garden Valley Rd. Sec.
Pacific Highway, I-5
Douglas County, Oregon

This negative declaration precedes our request for location/design approval of the subject project.

LOCATION AND DESCRIPTION OF PROJECT The Winchester-Garden Valley Road Section of I-5 extends approximately 5 miles from the Winchester Interchange south to the south end of the Garden Valley Road Interchange in northern Roseburg. (See sketch map.) The proposal is a safety improvement project to move signs and modify slopes and guardrails to meet current safety standards.

Signs will be moved to a distance 30 feet off the travelways of both northbound and southbound lanes, breakaway sign supports will be installed, guardrails will be placed where necessary, and culverts will be adjusted.

Only the northbound lanes will require significant slope and drainage adjustment, involving a total of approximately 12 acres of grubbing. Only minor changes will be made in the southbound slopes, as a part of the sign and guardrail work.

PURPOSE OF PROJECT

The purpose of this project is to upgrade the existing facility to present design and safety standards by removing obstacles and flattening slopes to increase the recovery zone for vehicles which accidentally overrun the travelway.

EXISTING ENVIRONMENTAL SETTING

This section is on I-5, the major north-south route in Oregon, and passes through countryside just north of Roseburg. It parallels the main runway of the Roseburg Municipal Airport northeast of the Garden Valley Interchange and a commercial and residential strip along the frontage road connecting Roseburg and Winchester. The highway crosses the South Umpqua River just south of the Winchester Interchange.

The safety design of the highway in this section is somewhat below present standards due to the presence of signs with fixed cement-steel supports close to the travelway, steep slopes along the northbound lanes, and obsolete guardrailing. The highway surface is in satisfactory condition and does not require resurfacing at this time.

DISCUSSION OF ENVIRONMENTAL IMPACTS

The only additional right-of-way needed for this project will be a 20 by 1200-foot strip along a portion of the northbound lane. The slope in this area is to be lengthened in order to control an existing erosion problem. Most slope, sign, and culvert adjustments will be within existing right-of-way on areas previously seeded and mulched following the original construction. Grubbing of approximately 12 acres for adjustment of the northbound slopes will temporarily set back the normal succession of this roadside vegetation, but reseeding and mulching will quickly restore it. No natural waterways will be affected by the project.

There will be a slight, temporary increase in noise levels and air pollution, due to construction equipment and the slowing and acceleration of traffic through the construction zone.

If required for this project, A-95 review will be requested at the appropriate time.

ALTERNATIVES AND REASON FOR PROJECT SELECTION

The project, as proposed, would bring the existing facility to present design and safety standards without significant adverse environmental effects. The no-build alternative would have less environmental impact on the project right-of-way

PURPOSE OF PROJECT The purpose of this project is to upgrade the existing facility to present design and safety standards by removing obstacles and flattening slopes to increase the recovery zone for vehicles which accidentally overrun the travelway.

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There will be a slight, temporary increase in noise levels and air pollution, due to construction equipment and the slowing and acceleration of traffic through the construction zone.

If required for this project, A-95 review will be requested at the appropriate time.

ALTERNATIVES AND REASON FOR PROJECT SELECTION The project, as proposed, would bring the existing facility to present design and safety standards without significant adverse environmental effects. The no-build alternative would have less environmental impact on the project right-of-way

than the proposal, but would perpetuate a substandard facility with unnecessary accident hazards. Moving back signs, installing breakaway sign supports, adding guardrails, and flattening slopes will provide a better recovery area for vehicles which accidentally overrun the travelway.

BASIS FOR NEGATIVE DECLARATION The staff of the Oregon State Highway Division concludes that this project is a minor action of insignificant environmental effect, pursuant to Federal Highway Administration Policy and Procedure Memorandum 90-1, Appendix F, since the project requires only a minimum of additional right-of-way and does not change the function of the existing facility or generate or displace traffic. Furthermore, it is unlikely that the project will have significant adverse impacts on ecological, cultural, or scenic resources, but will improve the safety of the existing facility.

Your concurrence is respectfully requested.

Endorsement to Oregon State Highway Division

Concur _____ Date SEP 21 1973
for Division Engineer

CPM:bb

cc: George M. Baldwin
F. B. Klaboe
A. E. Johnson
E. S. Hunter
L. H. Young
R. E. Royer
W. J. Hart
V. D. Wolfe

STATE OF OREGON

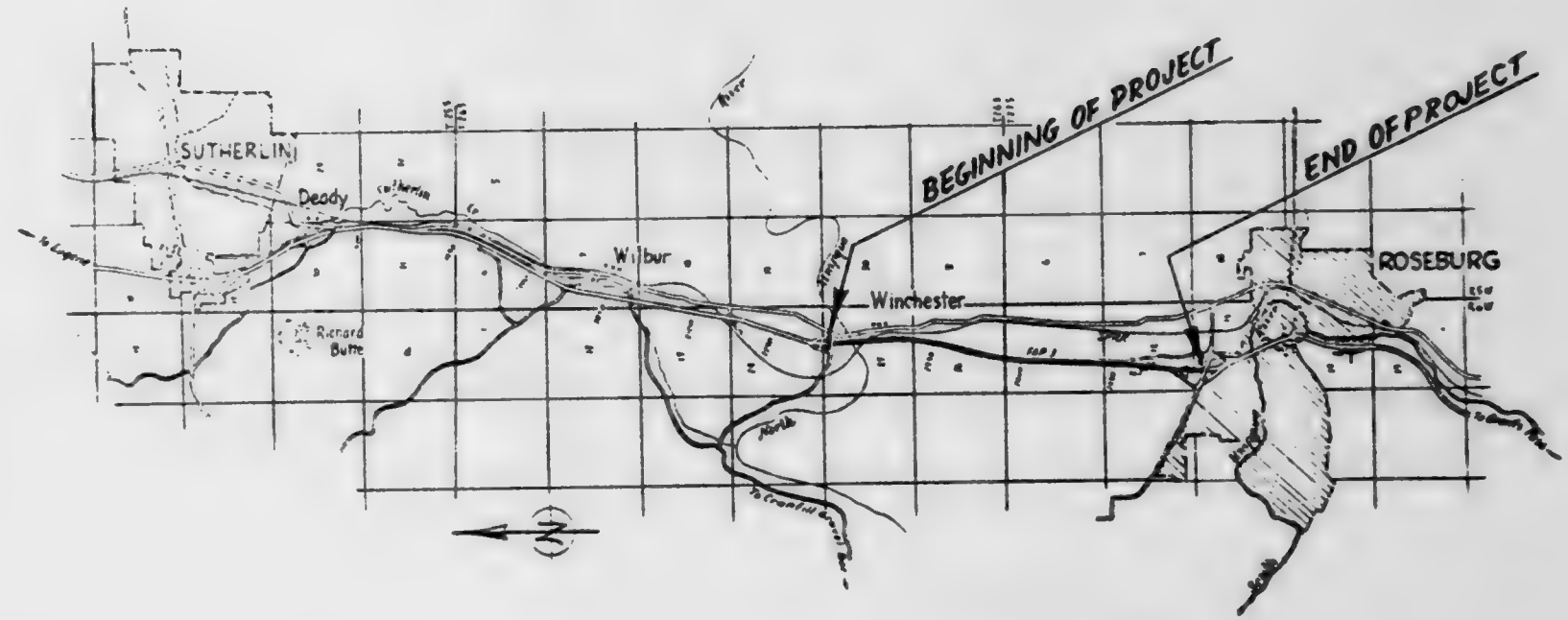
STATE HIGHWAY DIVISION

SKETCH MAP

WINCHESTER ~ GARDEN VALLEY ROAD SECTION

PACIFIC HIGHWAY

DOUGLAS COUNTY



8252 Motorist Service Signing 1975
Pac Hwy btwn Myrtle Cr & Calif.
State Line (Signing)

8252

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

9-28-81

LETTER OF APPROVAL AND/OR AUTHORIZATION

1. FEDERAL-AID PROJECT NO.: I-5-0(4)11
2. STATE PROJECT NO.: See below
2A. COUNTY NAME: Various

3. FROM: Dale E. Wilken, Division Administrator
FHWA - Oregon Division

4. PROGRAM NO.:

5. ITEM NO.: I-829

6. TO:

Mr. H. S. Coulter
State Highway Engineer
State of Oregon
Salem, Oregon

7. DATE AUTHORIZATION EFFECTIVE: 9/2/81

8. FEDERAL ROUTE NUMBER: Interstate 5

9. STATE ROUTE NUMBER: Primary 1

10. GENERAL LOCATION:

Motorist Service Sign Project

11. GENERAL DESCRIPTION OF WORK

Credit to project

12. YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

- [ ] PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY
- [ ] PRELIMINARY ENGINEERING FOR CONTRACT PLAN PREPARATION
- [ ] ACQUISITION OF RIGHT-OF-WAY
- [ ] CONSTRUCTION – ADVERTISE FOR RECEIPT OF BIDS
- [ ] CONSTRUCTION PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS
- [X] OTHER *(Specify)* See below

13. REMARKS

As requested in Mr. Keasey's letter of 9/21/81 I approve the advance authorization date of 9/2/81 to credit the subject project for sign materials not installed on the subject project with a credit to TEC of $1,706.80 Federal Funds $1,536. (SFO #3)

RECEIVED
STATE HWY ENGR
OCT 6'81
REFER TO
Meeting
FOR
Info | Inves | R/D | D/R | Sign | Act | File

Will 10-8-81

14. DATE: 9/28/81

15. SIGNATURE OF APPROVING OFFICIAL: G. K. Hoesmen

16. TITLE: for Division Administrator

FORM PR-1240 (Rev. 12-79) PREVIOUS EDITIONS MAY BE USED

8252

L.

STATE OF OREGON

INTEROFFICE MEMO

Highway - Traffic

TRA 7-5

TO: D. H. Moehring
Assistant State Highway Engineer
Project Management Branch

DATE: August 25, 1981

FROM: L. E. George
Traffic Engineer

SUBJECT: Logo Sign Contracts

copy
con 18 5

The following is a tabulation of logo sign contracts that have been kept open and active for the past several years to allow use of material furnished under the contracts.

I-5 North Unit
Contract No. 8260
Prefix 622-1056

I-5 South Unit
Contract No. 8252
Prefix 610-1058

I-80N (now I-84)
Contract No. 8253
Prefix 614-1083

This letter is to request that you initiate action necessary to close these contracts and final them out.

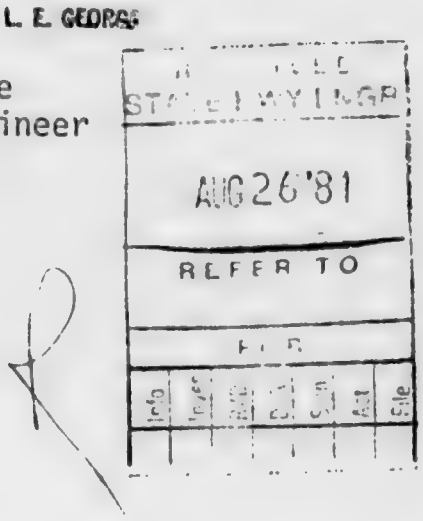
The contracts remaining stockpiled material should be credited to each contract. The total dollar value of the remaining material is $16,506.51. Signs sold up to June 30, 1981 (closing date) total $11,386.12.

The remaining balance of $5,120.39 should be credited in three equal amounts among the three contracts, since we do not have an inventory of which contract the material originally came from.

If any further information is required, please let me know.

ORIGINAL SIGNED BY L. E. GEORGE

L. E. George
Traffic Engineer



LEG:ds

cc: H. S. Coulter
J. L. Sollis
C. T. Keasey
R. L. Schroeder
R. J. Hacek
E. L. Hardt
C. O. Fredrickson
Alfred Shirley, Jr.
D. D. Allen
W. E. Schwartz
Brenda Holman

8253

L.

VICTOR ATIYEH
GOVERNOR

Travel Information Council

RM. 603, EXECUTIVE HOUSE, 325 13th ST. NE., SALEM, OREGON 97310 PH. (503) 378-3438

23 June 1981

To: Al Hampson, Chairman
Travel Information Council

From: Brenda Holman, Director
Travel Information Council

BH.

NOTED
H. S. COULTER

cont 18.3
Cod 18.3
#8253

Re: Interstate logo backboards ordered to reduce backboard stockpile obligation

To confirm my verbal report to you during our 6/22 meeting, attached is a listing of installed or pending backboards sold by this office since December 1979.

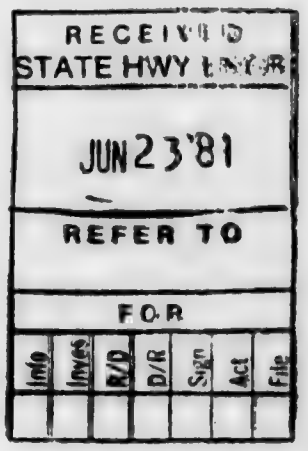
To bring you up-to-date on the background of the stockpiled sign material, Scott Coulter, State Highway Engineer, requested in a 12/16/80 letter to Glen L. Green, Division Administrator, Federal Highway Administration, that the contract be extended to June 30, 1981. On January 13, 1981, Mr. Green approved extension of the contract.

In his request, Mr. Coulter stated, "Our previous letter indicated that an estimated $40,000 worth of material in the stockpile at the beginning of 1980. An inventory made the latter part of November showed a remaining $12,000 left in the material stockpile.

"At the present rate of sales, the stockpile should be completely used by July 1, 1981."

It is my hope that this goal has been accomplished.

BH:mt
Attachment
cc: Scott Coulter, State Highway Engineer ✓
L. E. George, Traffic Support Services
Jack Sollis, Ass't. Attorney General/Counsel to T.I.C.



Interstate Logo Backboards Ordered by Travel Information Council Since 12/79

M/Yr	Exit Number	Direction	Category	Total
6/81	#32 (I-5)	SB	Food (pending)	1
6/81	#99	NB	Food (pending)	1
6/81	#163	N/SB	Food (pending)	2
5/81	#120	NB	Lodging (pending)	1
5/81	#253	N/SB	Food (pending)	2
11/80	#283	NB	Lodging	1
9/80	#283	NB	Food	1
8/80	#182	N/SB	Food	2
8/80	#182	N/SB	Lodging	2
9/80	#233	SB	Lodging	1
4/80	#119	N/SB	Lodging	2
9/80	#98	SB	Food	1
8/80	#108	NB	Food	1
5/81	#129	N/SB	Gas	2
4/80	#195	NB	Lodging	1
6/81	#109 (I-84)	E/WB	Food (pending)	2
3/81	#374	WB	Lodging	1
2/81	#207	EB	Food (pending)	1
12/80	#82	EB	Food	1
8/80	#62	EB	Food	1
8/80	#62	EB	Lodging	1
5/80	#137	E/WB	Food	2
5/80	#137	E/WB	Lodging	2
2/81	#31	E/WB	Food (pending)	2
12/80	#210	EB	Food	1
12/80	#210	EB	Lodging	1
4/80	#265	WB	Lodging	1
4/80	#304	E/WB	Food	2
4/80	#304	E/WB	Lodging	2
			TOTAL	41

NOTE: Unless "pending" noted, backboards are installed.

Form FHWA 121 (1/80)

8252

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

T OREGON DIVISION - SALEM
UNITED STATES GOVERNMENT

memorandum

Subject: Oregon Projects I-80N-0(5)40 and I-5-0(4)11 (Your ltr, 12-16-80, TRA 7)

8255
8252

Date: January 13, 1981

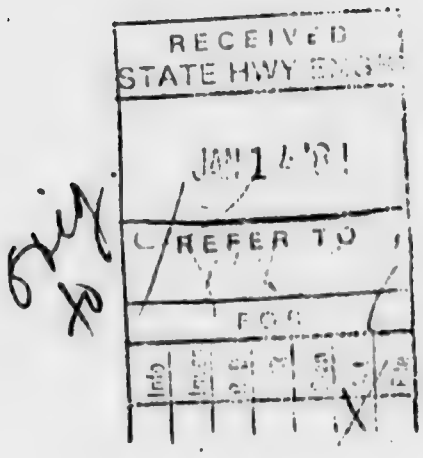
From: G. L. Green, Division Administrator

Reply to Attn. of: HPO-OR/520.61

To: Mr. H. S. Coulter, State Highway Engineer

Your request to extend the completion date on the subject projects to June 30, 1981 is hereby approved.

G. L. Green



NOTED
H. S. COULTER

Travel Information Council

VICTOR ATIYEH
GOVERNOR

RM. 603, EXECUTIVE HOUSE, 325 13th ST. NE., SALEM, OREGON 973 10

RECEIVED
STATE HWY ENGR
FEB 9 '81
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

9 February 1981

To: Members, Travel Information Council/Jack Sollis, Legal Counsel

From: Brenda Holman, Director BH

Re: For your information

In the "good news" department: Based on an excellent letter from Scott Coulter (attached), Glen Green, FHWA, has approved Mr. Coulter's request for an extension of the logo backboard contract through June 1981. The stockpile is dwindling, and I am continuing the marketing effort to sell remaining backboards before that June cutoff date.

In "more good news" category, we installed 19 logos and 13 supplementals during December, per our monthly report to Accounting. This is a record number of installations for a 30-day period.

Also a plus was the fact that our consultants in accounting and legal tell me that the Secretary of State's audit report, a copy of which you all recently received, was "clean."

So that you will have a better grasp of what has happened during 1980, I am in the process of preparing a year-end "Annual Report" for Council Members which will detail the number of inquiries we have had; applications processed, finalled, and approved; signs installed; etc. In addition, I will try to recap for you our progress on the nonInterstate program. Newest installations in that segment of our business are those at Blue Lake Resort and Fourth Sisters Lodge in Central Oregon; the Marketplace, Salishan; O'Shannon Motel, Pacific City; and at Red Lion Rippling River, Wemme. Applications are finalled, also, for a total of 12 signs for gas, food, and lodging facilities in Sun River. The installation of these Sun River Chevron logos will be the first signs in the "gas" category which we have installed since off-Interstate installations began May 15, 1980.

To further tie up end-of-the-year matters, I was on the road eight days during the first two weeks of January and did a complete photo inventory of every logo sign and every supplemental sign we have on I-84 and I-5. Previously, photo records were provided by local highway crews who took Polaroid pictures at the time of sign installation or removal; these photos were coupled with application data to provide our inventory count. The new up-to-date photo record, however, will give us a better handle on sign deterioration, exact counts, supplemental signing needs, and space availability.

Regarding logo sign deterioration/peeling: because of the mandatory replacement notification we have instituted, the condition of the logos is probably as good as it has been for some time. Individual business owners, at our notification, have been asked to replace fading or peeling signs. Cost of the replacement is borne by the client.

In the "people news", our newest Travel Information Council member, Marla Rae, who was previously news director for a Bend radio station, is based in Salem now as Communcations Director for the Department of Justice. A new updated roster is enclosed.

For your information, enclosed is a copy of Senate Bill 27, which would extend the life of the Travel Information Council, as it now exists, through July 1, 1983. It has been referred to the Senate's Government Operations Committee. Per a call from Charlie Hales, Oregon Motor Hotel Association, their Board of Directors has voted support for the Bill (see attached).

In addition, House Bill 2003 relates to Travel Information Council membership. To better familiarize myself with legislative procedures, I participated (January 26 and 29) in an excellent two-day afternoon/evening workshop sponsored by the Executive Department to improve legislative presentations.

I presented the Travel Information Council budget material, with the assistance of Scott Coulter, to the Ways & Means Committee on Friday, February 6, during the Highway Division's hearing.

You will be hearing a new voice on the phone at the Travel Information Council Office in Salem; Myra Taylor is replacing Alice Esplin, secretary, who has resigned, effective February 6. Myra was with the Corrections Division; she also served as administrative assistant at the State of Oregon Marine Board, and as a committee clerk for three legislative assemblies. I want to share with you my appreciation for Alice's service to me, and to the Council. I wish her the best on her new endeavors.

No date has been set yet for the next Travel Information Council meeting, but I will let you know as soon as one is firm.

BH:mt

Enclosures

1. Coulter letter to Green
2. Senate Bill 27
3. Pages 3 & 4 of House Bill 2003
4. OMHA letter
5. Council roster

Department of Transportation

STATE HIGHWAY DIVISION

In Reply Refer to
File No TRA 7

DATE: December 16, 1980

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM:
H. S. Coulter
State Highway Engineer

SUBJECT: Oregon Projects I-80N-0(5)40 and
I-5-0(4)-11
Motorist Information Signing
Refer to: HFO-OR/520.61

Your letter of February 8, 1980, stated that no further extensions would be granted to hold open the interstate logo contracts such that stockpiled sign material might be used and charged against the contract.

We realize that your office has taken a very strong position on this matter. We also recognize the cooperation given to the State through granting past extensions of time.

It is believed, however, that some related information needs to be called to your attention. If you recall, the stockpiled material was not reduced at a very rapid rate in the past. Previous Travel Information Council Directors and a recent new change in directors produced circumstances that did not allow a concentrated effort to be made in reducing the stockpiled material.

Our previous letter indicated that an estimated $40,000 worth of material in the stockpile at the beginning of 1980. An inventory made the latter part of November showed a remaining $12,000 left in the material stockpile. At the present rate of sales, the stockpile should be completely used by July 1, 1981.

In the interest of keeping the Travel Information Council solvent and operating properly, I believe it to be in the best interest of the State of Oregon to request that you reconsider your position and grant one more six-month time extension of the contract to June 30, 1981. Your review of these facts in considering our request is sincerely appreciated.

LEG:ds jh
bc: L. E. George J. L. Sollis Brenda Holman

TRA 7

DATE: December 16, 1980

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM:
H. S. Coulter
State Highway Engineer

SUBJECT: Oregon Projects I-80N-0(5)40 and
I-5-0(4)-11
Motorist Information Signing
Refer to: HFO-OR/520.61

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We realize that your office has taken a very strong position on this matter. We also recognize the cooperation given to the State through granting past extensions of time.

It is believed, however, that some related information needs to be called to your attention. If you recall, the stockpiled material was not reduced at a very rapid rate in the past. Previous Travel Information Council Directors and a recent new change in directors produced circumstances that did not allow a concentrated effort to be made in reducing the stockpiled material.

Our previous letter indicated that an estimated $40,000 worth of material in the stockpile at the beginning of 1980. An inventory made the latter part of November showed a remaining $12,000 left in the material stockpile. At the present rate of sales, the stockpile should be completely used by July 1, 1981.

In the interest of keeping the Travel Information Council solvent and operating properly, I believe it to be in the best interest of the State of Oregon to request that you reconsider your position and grant one more six-month time extension of the contract to June 30, 1981. Your review of these facts in considering our request is sincerely appreciated.

LEG:ds jh
bc: L. E. George J. L. Sollis Brenda Holman

8252

Form FHWA 121 (6/79)

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

THE OREGON DIVISION - SALEM
UNITED STATES GOVERNMENT

memorandum

Subject: Oregon Projects I-80N-0(5)40 and I-5-0(4)-11
Motorist Information Signing
(Your memo, 1-25-80)

From: G. L. Green, Division Administrator

Date: February 8, 1980

Reply to Attn. of: HFO-OR/520.61

To: Mr. H. S. Coulter, State Highway Engineer

Your memorandum requested our reconsideration for extending the contracts for subject projects to December 31, 1980. You cited recent personnel changes in the Travel Information Council and revisions in sign spacing requirements as being the reason for additional contract time.

In a spirit of cooperation, I am approving extension of the contracts to December 31, 1980. I realize that TIC has experienced personnel changes, but the spacing revisions were made in June 1977 - over 2 years ago.

Please be advised that I will not consider another extension, so your program should be developed accordingly. The present contracts are to be terminated after December 31, 1980.

G. L. Green

cc:
OSHD (Mr George, Traff Sec, OTS)

2-14
cy to Dist Engr

RECEIVED
STATE HWY ENGR
FEB 11 '80
REFER TO
FOR
Info | Inves. | R/D | D/R | Sign | Act | File

8252

DATE: January 25, 1980

TRA 7

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM:
H. S. Coulter
State Highway Engineer

SUBJECT: I-80N-0(5)40 and I-5-0(4)11
Motorist Information Signing
Refer to: HFO-OR/520.01

Your letter of January 15 indicated that the Logo contracts should be finalized as rapidly as possible. We agree that your agency has been more than cooperative in extending the life of these contracts several years to permit use of stockpiled material.

There are some valid reasons for our most recent extension request. Recent personnel changes in the Travel Information Council have unavoidably delayed the sales of interstate Logos and the use of stockpiled material. A new Director has been employed and is now familiar with the work. Several recent requests will require use of stockpiled material. The new Federal Logo Regulations that decreased the spacing between backboard locations will also result in the use of some stockpiled material, since additional sign installations will now be possible that were not before.

Considered together, these conditions should result in considerable use of material from the stockpile over the next year. Because of these circumstances, we request your reconsideration for one more year of extension on the contract times.

LEG:ds jh
bc: J. L. Sollis
L. E. George
Brenda Holman

Form FHWA 121 (6/79)

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

THE OREGON DIVISION - Salem
UNITED STATES GOVERNMENT

memorandum

Subject: Oregon Projects
I-80N-0(5)40 and I-5-0(4)11
Motorist Information Signing

Date: January 15, 1980

From: G. L. Green, Division Administrator

Reply to Attn. of: HFO-OR/520.61

To: Mr. H. S. Coulter, State Highway Engineer, ODOT

Your December 26, 1979 request to extend the time to install the remaining stockpiled material to December 31, 1980 cannot be approved.

This is a five-year old project that has been extended several times. You were advised at the time of the last extension that we would not consider an additional extension. I believe our previous actions have been very reasonable providing sufficient time to install all necessary signs.

Please take necessary action to have this five-year old project terminated as of December 31, 1979.

for G. L. Green

1/18 cy Mitchino George Gillis Lloyd

RECEIVED
STATE HWY ENGR
JAN 16 '80
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

(REV. 10-78)

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 3-121		State Oregon
PROJECT REPOR. NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Jackson & 8 other counties
MODIFICATION NUMBER 4	3-20-79	Project Number I-5-0(4)11

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 7 ,19 75 , is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 279,761.00	$ 294,996.00
Federal funds	$ 258,163.00	$ 272,221.00
Other revisions		

This modification is made for the following reasons:

To include approved S.F.O.# 2

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 20th day of March ,19 79 .

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E J Tuckett

Asst. State Highway Engineer
(Title)

By For H. S. Coulter

State Highway Engineer
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)

For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 927 494

Gen. file

Oregon State Highway Division
Salem, Oregon March 13, 1979

Federal Aid Project
No. I-5-0(4)11

I-5 Motor Service Signing Project
Pacific Highway
Jackson and 8 other Counties

Revised Project Agreement Estimate

Type Code YOOZ
Signing (S. Ashland Int.-Roseburg)
Subtotal of previous estimate of April 29, 1976 $126,379.00

Additional Approved Items
Install Stocked & New Signs S.F.O.#2

All Required	$ 13,250.00
Subtotal	$139,629.00
Engineering	20,941.00
Total	$160,570.00

Type Code YOO2
Signing (Roseburg-N. Tigard Interchange)
Total the same as of previous estimate April 29, 1976 $134,426.00

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Signing (S. Unit)	$160,570.00	$148,173.00	$12,397.00
Signing (N. Unit)	134,426.00	124,048.00	10,378.00
Total	$294,996.00	$272,221.00	$22,775.00

S. Unit Group 1 - 100% Contract No. 8252 Prefix No. 610-1058	N. Unit Group 1 - 100% Contract No. 8260 Prefix No. 622-1056
Clackamas County	1%
Douglas County	12%
Jackson County	34%
Josephine County	16%
Lane County	21%
Linn County	3%
Marion County	11%
Multnomah County	2%
	100%

8252

STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 11-162		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Jackson & 8 Others
MODIFICATION NUMBER 3	11 - 8 - 75	Project Number I-5-0(4)11

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 253,320	$ 279,761
Federal funds	$ 233,762	$ 258,163
Other revisions		

This modification is made for the following reasons:
To include additional approved State force work. No change in previous 100% funding under PL 94-30 in the amount of $19,558.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 18th day of November, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E. L. Hunter

Deputy State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

68717

Oregon State Highway Division
Salem, Oregon, November 10, 1976

Federal-Aid Project
No. I-5-0(4)11

I-5 Motorist Service Signing Project
Pacific Hwy. in Jackson and 8 Other Counties

Revised Project Agreement Estimate

Type Code Y002		
Signing (S. Ashland Intchge.-Roseburg)		
Subtotal on previous estimate of April 29, 1976		$126,379.00
	Engineering	18,956.00
	Total	$145,335.00
Type Code Y002		
Signing (Roseburg-N. Tigard Intchge.)		
Subtotal on previous estimate of April 29, 1976		$103,913.00
Additional Approved Items		
SFO 3 Fabricate and Install Signs at Stafford Rd.	All Required	6,320.00
SFO 4 Fabricate and Install Signs at MP 161.45 & MP 196.40	All Required	3,760.00
SFO 5 Remove 7 Signs at "Q" Street Intchge.	All Required	700.00
SFO 6 Fabricate and Install Signs at MP 234.89	All Required	2,200.00
	Increase	$ 12,980.00
	Subtotal	$116,893.00
	Engineering	17,533.00
	Total	$134,426.00

Length of Project - - - - - - - - - - - 0.00 Mile

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Signing (S. Unit)	$145,335.00	$134,115.00	$ 11,220.00
Signing (N. Unit)	134,426.00	124,048.00	10,378.00
Total	$279,761.00	$258,163.00	$ 21,598.00

South Unit

Group 1 100%
Contract No. 8252
Prefix No. 610-1058

Clackamas County	1%
Douglas County	12%
Jackson County	34%
Josephine County	16%
Lane County	21%
Linn County	3%
Marion County	11%
Multnomah County	2%
	100%

North Unit

Group 1 100%
Contract No. 8260
Prefix No. 622-1056

Previous editions are obsolete

8252

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 5-159		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Jackson & 8 Others
MODIFICATION NUMBER 2	5-14-76	Project Number I-5-0(4)11

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 253,320	$ 253,320
Federal funds	$ 233,762	$ 253,320
Other revisions		

This modification is made for the following reasons:
The Project Agreement executed July 17, 1975 is modified to increase Federal-aid participation to 100 percent in accordance with PL 94-30. Such additional Federal Funds requested total $ 19,558."

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 14th day of May, 1976.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By C J Hunter

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By W L Lang
(Division Administrator)
For: G. L. Green

Form PR-2A (Rev. 10-75) Previous editions are obsolete GPO 895-313

8252

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER: 5-84		State: Oregon
PROJECT REPORT NUMBER:	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County: Jackson & 8 Others
MODIFICATION NUMBER: 1	5 of 6	Project Number: I-5-0(4)11

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 236,237	$ 253,320
Federal funds	$ 217,999	$ 233,762
Other revisions		

This modification is made for the following reasons:

To include cost of approved additional items.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 14th day of May, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E. J. Hunter

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 895-313

Oregon State Highway Division
Salem, Oregon, April 29, 1976

Federal-Aid Project
No. I-5-0(4)11

I-5 Motor Service Signing Project
Pacific Highway
Jackson and 8 Other Counties

Revised Project Agreement Estimate.

Type Code Y002
Signing (S. Ashland Int.-Roseburg)

Subtotal on previous estimate of July 11, 1975			$122,359.00
Additional Approved Items			
Mark Sign Footing Location (PA #1)	104 only	5.00	520.00
Install Existing Signs on Steel Supports (PA #2)	All Required		3,000.00
Handle and Store Materials (SFO #1)	All Required		500.00
			$ 4,020.00
	Subtotal		$126,379.00
	Engineering		12,637.00
	Total		$139,016.00

Type Code Y002
Signing (Roseburg-N. Tigard Interchange)

Subtotal on previous estimate of July 11, 1975			$ 92,403.00
Additional Approved Items			
Install Additional Signs (EWO #1)	All Required		$ 6,000.00
Unload and Stockpile Materials (SFO #1)	All Required		500.00
Revise 2 Logo Signs (SFO #2)	All Required		300.00
Fabricate and Install Signs (PA #2)	All Required		4,710.00
			$ 11,510.00
	Subtotal		$103,913.00
	Engineering		10,391.00
	Total		$114,304.00

Length of Project - - - - - - - - 0.0 Mile

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Signing (S. Unit)	$139,016.00	$128,283.00	$ 10,733.00
Signing (N. Unit)	114,304.00	105,479.00	8,825.00
Total	$253,320.00	$233,762.00	$ 19,558.00

S. Unit

Group 1	100%
Contract No.	8252
Prefix No.	610-1058

Clackamas Co.	1%
Douglas Co.	12%
Jackson Co.	34%
Josephine Co.	16%
Lane Co.	21%
Linn Co.	3%
Marion Co.	11%
Multnomah Co.	2%
	100%

N. Unit

Group 1	100%
Contract No.	8260
Prefix No.	622-1056

STATE COPY

Form Approved; O.M.B. No. 04-R2089

TO BE COMPLETED BY FHWA MONTHLY TRANSACTION NO. 7-39	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION 6-17-75 **FEDERAL-AID PROJECT AGREEMENT**	STATE Oregon COUNTY Jackson and 8 other counties PROJECT NO. I-5-0(4)11

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

I-5, South Ashland Intchge-North Tigard Interchge.

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	6-4-75	0.00
OTHER *(Specify)*		

FUNDS Pro-rata 92.28%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 236,237	$ 217,999

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E S Hunter

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Engineer)
G. L. Green

Date executed by Division Engineer _____

Form PR-2 (Rev. 4-75) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 307(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 11, 1975

Federal Aid Project
No. I-5-0(4)11

I-5 Motor Service Signing Project
Pacific Highway
Jackson and 8 other Counties

Project Agreement Estimate.

Type Code Y002
Signing (S. Ashland Int.-Roseburg)

Temporary Protection and Direction of Traffic	All Required		$ 1,000.00
Flagmen	40 hours	10.00	400.00
Sign Support Footings	All Required		30,632.00
Breakaway Sign Posts	All Required		31,719.00
Type "B" Signs in Place	8,880 sq.ft.	6.60	58,608.00
	Subtotal		$122,359.00
	Engineering		12,235.00
	Total		$134,594.00

Type Code Y002
Signing (Roseburg-N. Tigard Interchange)

Temporary Protection and Direction of Traffic	All Required		$ 1,000.00
Flagmen	40 hours	10.00	400.00
Sign Support Footings	All Required		22,386.00
Breakaway Sign Posts	All Required		26,806.00
Type "B" Signs in Place	5,973 sq.ft.	7.00	41,811.00
	Subtotal		$ 92,403.00
	Engineering		9,240.00
	Total		$101,643.00

Length of Project - - - 0.00 mile

Work Retained in Program Status
South Unit

Handling & Storing Materials (S.F.)	All Required		$ 500.00
Mark Sign Footing Locations (E.W.)	All Required		250.00
Install Additional Signs (E.W.)	All Required		10,000.00
	Subtotal		$ 10,750.00
	Engineering		1,075.00
	Total		$ 11,825.00

(North Unit)

Handling and Storing Materials (S.F.)	All Required	$ 500.00
Mark Sign Footing Locations (E.W.)	All Required	150.00
Modify Signs MP 235.22 S.B. (E.W.)	All Required	100.00
Install Additional Signs (E.W.)	All Required	6,000.00
	Subtotal	$ 6,750.00
	Engineering	675.00
	Total	$ 7,425.00

Summary of Funds

Description	Total Cost	Federal Funds	State Funds
Signing (S. Unit)	$134,594.00	$124,203.00	$10,391.00
Signing (N. Unit)	101,643.00	93,796.00	7,847.00
Subtotal	$236,237.00	$217,999.00	$18,238.00
Retained in Program (S. Unit)	$ 11,825.00	$ 10,912.00	$ 913.00
Retained in Program (N. Unit)	7,425.00	6,851.00	574.00
Subtotal	$ 19,250.00	$ 17,763.00	$ 1,487.00
Total	$255,487.00	$235,762.00	$19,725.00

S. Unit

Group 1 - 100%

Conract No. 8252

Prefix No. 610-1058

Clackamas Co.	1%
Douglas Co.	12%
Jackson Co.	34%
Josephine	16%
Lane Co.	21%
Linn Co.	3%
Marion Co.	11%
Multnomah Co.	2%
	100%

N. Unit

Group 1 - 100%

Contract No. ~~8252~~, 8260

Prefix No. ~~610-1058~~, 622-1056

#8252

9

DATE: February 27, 1979

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM: H. S. Coulter
State Highway Engineer

SUBJECT: Oregon Projects I-5-0(4)11 & I-80N-0(95)40
Motorist Information Signing
HFO.1-OR/520.61

Your memorandum of January 23, 1979, requested a breakdown of the stockpiled signs showing how many of the signs have been installed, the location, types and the cost of each.

Attached are tabulations for the three projects awarded in 1975. The locations shown are for the signs that were stockpiled in the original contracts. The "X" marks in the last column indicate locations where the stockpiled logo signs have been installed throughout the years.

The totals of sheets 1, 2 and 3 show that 132 signs were stockpiled and up to date, 66 have been installed on existing footings. This leaves 66 footings at various locations with no signs mounted on them.

The tabulation on sheet 4 shows that 19 of the stockpiled signs were installed at locations not called for on the stockpiled list.

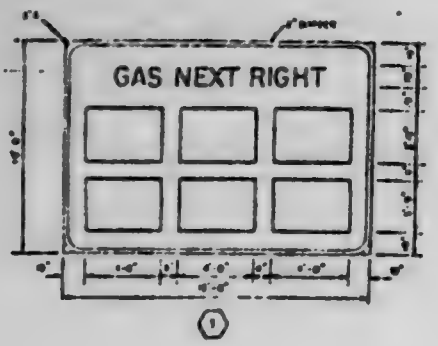
The summary sheet, No. 5 shows that 47 signs remain in the stockpile. An inventory taken on December 12, 1978, showed an actual count of 48 signs remaining in the stockpile. The variation is caused by the fabrication of large signs from several small signs and by signs which were removed and returned to the stockpile. When signs have been installed for existing logo sales, the stockpile will be reduced to approximately 40 sign panels.

Your memo requested the cost of each sign installation. To determine those costs would require lengthy and costly research. Therefore, sign costs are not included in this reply.

ELS:cs HSC:cm
bc: J. L. Sollis
L. E. George
Blake Eklund

TYPE OF SIGN

(See Column 3 of Tabulation)



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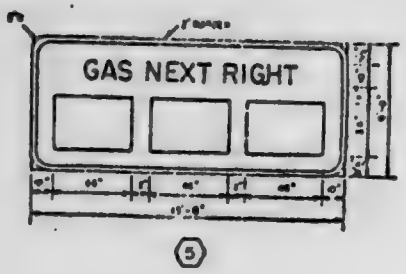

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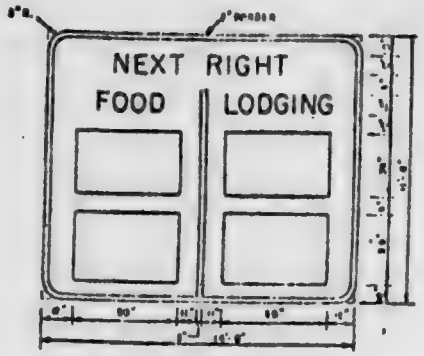

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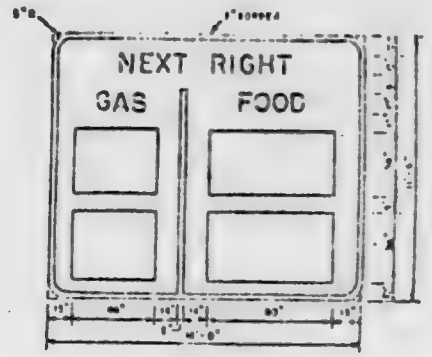

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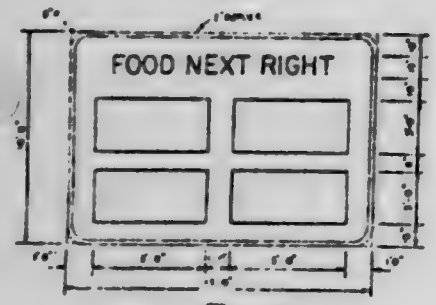

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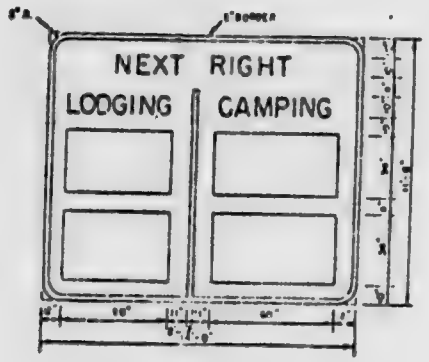

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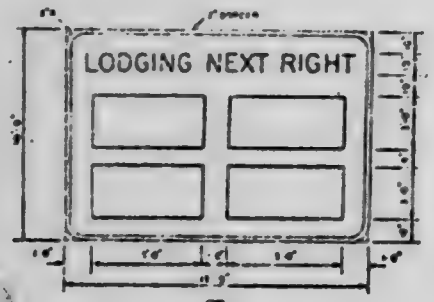

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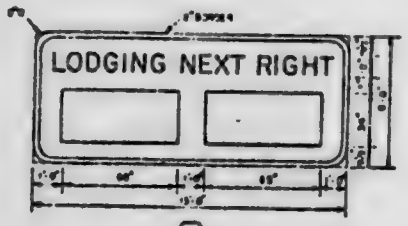

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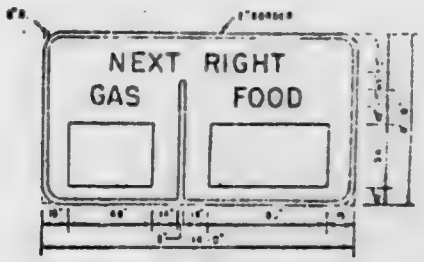

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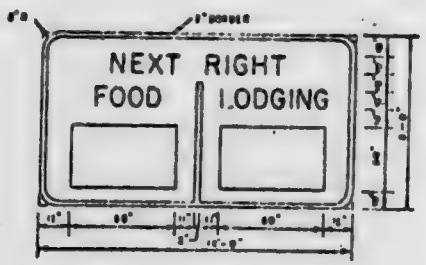

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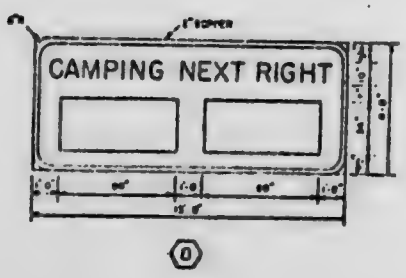

⑧

All Signs Type "B"

Form 81-734-8019

OREGON STATE HIGHWAY DIVISION

TABULATION SHEET

SHEET 1A OF ..... SHEETS

Stockpiled Signs

Pacific Highway (S. Unit) (Interstate 5)

Sign Stockpiled on Original Contract

Interchange Name		Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
South Ashland		11	3	10.72	NB			
South Ashland		11	8	10.50	NB			
Green Springs		14	8	12.90	NB	X		
Green Springs		14	8	15.47	SB	X		
North Ashland		19	3	20.11	SB	X		
North Ashland		19	8	20.33	SB			
Valley View Road		21	12	21.84	SB			
Barnett Road		27	8	26.27	NB			
Barnett Road		27	8	29.75	SB			
Crater Lake		30	8	29.19	NB	X		
Crater Lake		30	8	31.63	SB	X		
Central Point		32	3	31.65	NB			
Central Point		32	8	31.37	NB			
Central Point		32	3	33.87	SB			
Central Point		32	8	34.04	SB			
Kane Creek		40	12	40.04	NB	X		
Kane Creek		40	12	41.48	SB	X		
Rock Point		43	6	42.89	NB			
Rock Point		43	3	42.69	NB			
Rock Point		43	6	44.60	SB			
Rock Point		43	3	44.83	SB			
Homestead		45A	14	44.46	NB			
Rogue River		48	2	47.85	NB	X		
Rogue River		48	3	47.65	NB	X		
Rogue River		48	4	47.40	NB			

Form 81-734-3048

OREGON STATE HIGHWAY DIVISION

TABULATION SHEET

SHEET 18 OF ..... SHEETS

Interchange Name	Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
Rogue River	48	2	49.77	SB	X		
Rogue River	48	3	49.95	SB	X		
Rogue River	48	4	50.16	SB			
East Grants Pass	55	3	54.66	NB			
East Grants Pass	55	4	54.35	NB			
East Grants Pass	55	3	57.19	SB			
East Grants Pass	55	4	57.38	SB			
North Grants Pass	58	4	56.15	NB	X		
North Grants Pass	58	4	59.35	SB	X		
Sunny Valley	71	8	70.34	NB	X		
Sunny Valley	71	8	72.61	SB	X		
Wolf Creek	76	13	75.12	NB	X		
Wolf Creek	76	13	77.35	SB	X		
South Canyonville	98	7 (3)	97.33	NB	X	Revised to No. 3	
South Canyonville	98	1	99.12	SB	X		
North Canyonville	99	7 (3)	100.59	SB	X	Revised to No. 3	
Myrtle Creek	108	1	107.56	NB			
Myrtle Creek	108	2	107.31	NB			
Myrtle Creek	108	7	107.16	NB			
Myrtle Creek	108	1	108.94	SB			
Myrtle Creek	108	7	109.30	SB			

TOTAL NUMBER OF STOCKPILED SIGNS 46

NUMBER INSTALLED 20

Form 81-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHEET

SHEET 2 OF ..... SHEETS

Stockpiled Signs
Pacific Highway (N. Unit) (Interstate 5)

Signs Stockpiled on Original Contract

Interchange Name	Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
Garden Valley Road	129	8	126.37	SB			
Sutherlin	136	2	135.64	NB	X		
Sutherlin	136	3	135.49	NB	X		
Sutherlin	136	8	137.28	SB			
Rice Hill	148	7	147.60	NB	X		
Rice Hill	148	2	149.27	SB	X		
Rice Hill	148	7	149.45	SB	X		
Yoncalla	150	7	149.16	NB			
Yoncalla	150	7	151.32	SB			
Cottage Grove	174	8	174.04	NB			
Cottage Grove	174	3	175.72	SB	X		
Cottage Grove	174	8	175.99	SB			
McVay	189	6	189.00	NB			
McVay	189	6	191.2	SB			
McVay	189	7	191.51	SB			
Glenwood	191	5	191.01	NB	X		
Glenwodd	191	5	193.22	SB	X		
Coburg Road	199	17	198.12	NB			
Diamond Hill	209	8	208.30	NB	X		
Diamond Hill	209	8	210.30	SB	X		
Santiam	233	1	233.72	SB	X		
Woodburn	271	7	270.84	NB	X		
Woodburn	271	7	270.84	SB	X		

TOTAL NUMBER OF STOCKPILED SIGNS 23

NUMBER INSTALLED 13

Form 81-734-3048

OREGON STATE HIGHWAY DIVISION

TABULATION SHEET

SHEET 3A OF ..... SHEETS

Stockpiled Signs

Columbia River & Old Oregon Trail Highways

Interstate 80 North

Signs Stockpiled on Original Contract						Signs Installed		
Interchange Name		Interchange Number	Type of Sign	M.P.	Direction of Travel			
Cascade Locks		44	1	42.96	EB	X		
Cascade Locks		44	1	45.80	WB	X		
West Hood River		62	5	60.70	EB	X		
West Hood River		62	2	61.30	EB			
West Hood River		62	3	61.07	EB			
West Hood River		62	8	60.68	EB			
West Hood River		62	5	62.67	WB	X		
West Hood River		62	2	62.86	WB	X		
West Hood River		62	8	63.23	WB			
East Hood River		64	13	65.40	WB			
West The Dalles		83	1	85.09	EB	X		
West The Dalles		83	3	82.63	EB	X		
West 2nd Street		84	1	84.55	WB	X		
West 2nd Street		84	2	84.89	WB	X		
West 2nd Street		84	3	85.07	WB			
Brewery Grade		85	1	84.99	EB			
Brewery Grade		85	3	84.99	EB			
Brewery Grade		85	1	86.09	WB			
Brewery Grade		85	3	86.57	WB			
The Dalles	Bridge	87	2	86.20	EB	X		
The Dalles	Bridge	87	14	85.99	EB	X		
The Dalles	Bridge	87	2	87.98	WB	X		
The Dalles	Bridge	87	14	88.26	WB	X		
Biggs		104	2	103.52	EB			
Biggs		104	2	105.47	WB			
Rufus		109	13	110.81	EB			

Form 1f-724-2040

OREGON STATE HIGHWAY DIVISION

TABULATION SHEET

SHEET ...3B... OF ..... SHEETS

Interchange Name		Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
Rufus		109	13	110.81	WB			
Arlington		137	13	136.81	EB			
Arlington		137	8	136.37	EB			
Arlington		137	13	139.08	WB			
Arlington		137	8	139.59	WB			
Boardman		164	2	163.26	EB			
Boardman		164	3	163.06	EB			
Boardman		164	8	162.77	EB			
Boardman		164	2	165.05	WB			
Boardman		164	3	165.22	WB			
Boardman		164	8	165.44	WB			
West Pendleton		207	1	206.65	EB	X		
West Pendleton		207	2	206.45	EB			
West Pendleton		207	1	208.26	WB	X		
West Pendleton		207	2	208.51	WB			
West Pendleton		207	3	208.69	WB	X		
Emigrant Avenue		209	3	210.30	WB	X		
South Pendleton		210	1	210.30	EB			
South Pendleton		210	2	210.17	EB	X		
South Pendleton		210	3	209.92	EB	X		
South Pendleton		210	2	211.95	WB	X		
South Pendleton		210	3	212.18	WB	X		
Wallowa Lake		261	3	262.61	EB	X		
Wallowa Lake		261	1	262.86	WB	X		
Wallowa Lake		261	3	263.06	WB	X		

Form 81-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHEET

SHEET 30 OF ..... SHEETS

Interchange Name		Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
Union Junction		265	16	265.76	WB	X		
North Powder		285	17	284.65	EB			
North Powder		285	17	286.57	WB			
Campbell Street		304	5	303.40	EB	X		
Campbell Street		304	13	303.24	EB	X		
Campbell Street		304	5	304.83	WB	X		
Campbell Street		304	13	305.06	WB	X		
South Baker		306	1	307.46	WB	X		
South Baker		306	2	307.72	WB	X		
South Baker		306	3	308.48	WB	X		
North Ontario		374	1	373.93	EB			
North Ontario		374	2	373.69	EB			

TOTAL NUMBER OF STOCKPILED SIGNS 63

NUMBER INSTALLED 33

Form 81-734-3040

OREGON STATE HIGHWAY DIVISION

TABULATION SHEET

SHEET 4 OF ..... SHEETS

Stockpiled signs installed at other locations

Interchange Name		Exit Number	Type of Sign	Direction of Travel				
Interstate 5								
North Ashland		19	5	NB				
Crater Lake		30	2	NB				
Crater Lake		30	3	NB				
Glendale		80	6	NB				
Glendale		80	6	SB				
Coburg		199	2	NB				
Coburg		199	2	SB				
Harvand Avenue		124	2	SB				
North Albany		234	2	SB				
North Santiam		253	3	SB				
Brooks		263	6	NB				
Brooks		263	6	SB				
Fargo Road		278	6	NB				
Fargo Road		278	6	SB				
Interstate 80 North								
South Pendleton		210	8	WB				
Richland		302	8	EB				
Richland		302	8	WB				
Benson Creek		353	7	EB				
Benson Creek		353	7	WB				
		TOTAL		19				

Form 734-2040

OREGON STATE HIGHWAY DIVISION

TABULATION SHEET

SHEET 5 OF ..... SHEETS

SUMMARY

TOTAL NUMBER OF SIGNS IN ORIGINAL STOCKPILE		
Interstate 5 (S Unit)	46	
Interstate 5 (N Unit)	23	
Interstate 80 North	63	
TOTAL	132	132
SIGNS INSTALLED AT STOCKPILED SITES		
Interstate 5 (S Unit)	20	
Interstate 5 (N Unit)	13	
Interstate 80 North	33	
TOTAL	66	66
Existing Stockpiled sites with no signs		66
Signs installed at other locations		19
Number of signs remaining in stockpile		47

Form FHWA 121 (Rev. 5-73)

Scofield
Draft reply

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
The Equitable Center, Suite 100
530 Center NE. - Salem OR 97301

DATE: January 23, 1979

In reply refer to: HFO.1-OR/520.61

SUBJECT: Oregon Projects I-5-0(4)11 & I-80N-0(95)40
Motorist Information Signing

FROM : G. L. Green, Division Administrator

TO : Mr. H. S. Coulter, State Highway Engineer
Oregon Department of Transporation
Salem, Oregon

As requested in your December 26, 1978 letter, the time to complete the installation of all original stockpiled signing material on the subject projects was recently extended to December 31, 1979. In order for us to determine the overall effectiveness of this procedure, as well as respond to inquiries from other offices, it is requested that a breakdown showing how many signs have been installed, their locations and types, and cost of each, be furnished as soon as possible. An estimate of the number of signs remaining to be installed would also be useful.

Please feel free to call if you have any questions regarding this request.

G. K. Hoesmer
for G. L. Green

NOTED
ELMER SCOFIELD

RECEIVED
STATE HWY ENGR
JAN 25 '79
REFER TO
FOR
Info | Inves | R.D. | Sign | Act | File

RECEIVED
JAN 29 '79
TRAFFIC ENGINEERING

NOTED
DWAYNE HOFSTETTER

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
The Equitable Center, Suite 100
530 Center NE. - Salem OR 97301

DATE: January 8, 1979

In reply refer to: HFO.1-OR/520.61

SUBJECT: Oregon Projects I-5-0(4)11 & I-80N-095)40
Motorist Information Signing

FROM : G. L. Green, Division Administrator

NOTED
H. S. COULTER

TO : Mr. H. S. Coulter
State Highway Engineer
Oregon Department of Transportation

For the reasons outlined in your December 26, 1978, letter, the time to complete the installation of all original stockpiled signing material on these projects is extended to December 31, 1979, as requested. This additional time should be adequate to complete all work on these projects; therefore, future extension of time will not be approved. All signing installed must, of course, be in full conformance with approved standards in order to qualify for Federal-aid funding.

G. L. Green

RECEIVED
STATE HWY ENGR
JAN 9 - '79
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

cys George Sallis
Blake Ekland
1/10/79

1/23/71

Form 81-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHE

SHEET ....1..... OF ....2..... SHEE

Tabulation of Distance Tables Showing Eatings in Miles Between Towns Regions 3

MP	Intersection	Name	NB - SB	Type				
0.00	So. Ashland		NB	Lodging				
0.22	So. Ashland		NB	Lodging				
0.33	N Ashland		SB	Camping				
1.89	Valley View		SB	Gas				
26.27	Barnett Rd		NB	Camping				
2.275	Barnett Rd		SB	Camping				
3.137	Central Point		NB	Camping				
3.165	Central Point		NB	Lodging				
3.387	Central Point		SB	Lodging				
3.407	Central Point		SB	Camping				
4.267	Rock Point		NB	Lodging				
4.287	Rock Point		NB	Food				
4.468	Rock Point		SB	Food				
4.492	Rock Point		SB	Lodging				
5.946	Homestead		NB	Lodging				
6.24	Rogue River		NB	Camping				
6.016	Rogue River		SB	Camping				
6.406	E Grants Pass		NB	Lodging				
6.435	E Grants Pass		NB	Camping				
6.617	E Grants Pass		SB	Lodging				
6.638	E Grants Pass		SB	Camping				
10.216	Myrtle Creek		NB	Lodging				
10.231	Myrtle Creek		NB	Food				
10.256	Myrtle Creek		NB	Gas				
10.494	Myrtle Creek		SB	Gas				
10.530	Myrtle Creek		SB	Lodging				
10.772	[illegible]		SB	[illegible]				

Form 81-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHE

SHEET 2 OF 2 SHEE

MP	Direction	NB SB	Type				
9216	Yamhill	NB	Lodging				
9139	Yamhill	SB	Lodging				
7376	Cottage Grove	NB	Camping				
7616	Cottage Grove	SB	Camping				
12908	McKay	NB	Food				
12852	McKay	SB	Food				
12853	McKay	SB	Lodging				

825

Form FHWA 141 (Rev. 8-72)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
The Equitable Center, Suite 100
530 Center NE. - Salem OR 97301

DATE: September 28, 1978

In reply refer to: HFO.1-OR/520.61

SUBJECT: Motorist Information Signing

FROM : G. L. Green, Division Administrator

TO : Mr. H. S. Coulter, State Highway Engineer
Oregon Department of Transportation
Salem, Oregon

Your August 23 letter agreed to make several corrections to the existing Logo signing along Interstate 5 as discussed in my July 19 letter. Your letter also indicated that you do not intend to make other necessary corrections.

Prior to our final acceptance of the project I-5-0(4)11, all items discussed in my July 19 letter will have to be satisfactorily corrected.

G. K. Hoosman
for G. L. Green

RECEIVED
STATE HWY ENGR
REFER TO

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

August 25, 1978

Salem, Oregon

FILE:

NOTED
H. S. COULTER

FROM: Robert E. Royer
REGION OPERATIONS ENGINEER

SUBJECT: Oregon Projects I-5-0(4)11
Motorist Information Signing

TO: H. S. Coulter
STATE HIGHWAY ENGINEER

Your August 23, 1978, memo to Glen Green asked the Regions to take appropriate action on Items 1 through 4 of the last paragraph of his letter. Item 4 refers to the Gas and Food signs just installed in advance of Fargo Road Interchange, Exit 278. These signs are not placed on the right of way but are outside the 30-foot clearance distance from the travel way. We do not anticipate moving the signs. Sign installations in the future will be, if practicable, next to the right of way.

RER/gl

RECEIVED
STATE HWY ENGR
AUG 28 '78
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

8252

DATE: August 23, 1978

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM: H. S. Coulter
State Highway Engineer

SUBJECT: Oregon Projects I-80N-0(5)40 and I-5-0(4)11
Motorist Information Signing
HPO.1-OR 520.61

The following information is presented in answer to your July 19 letter regarding the Logo contract projects on I-5.

Item 2a. Budget Gas and Diesel does sell ARCO gasoline but their legal business name properly registered with the Secretary of State is "Budget Gas and Diesel." There is no reason under federal and state regulations why this business should not have their legal business name on the Logo panel.

Item 2b. Action has already been taken to remove the "Truck Stop" Logo.

Item 2c. The "Motel 6" Logo will be properly installed when the area dries out enough that we can bring in the heavy equipment necessary to install the larger backboard.

Item 2d. Travel Information Council regulations permit the installation of a supplemental Logo if freeway Logo boards are completely filled. Such is the case involving McDonalds at the Woodburn Interchange. We are puzzled by your remark concerning "removal for safety reasons." To the best of our knowledge, McDonalds' supplemental Logo creates no safety problem.

Item 2e. Past correspondence transmitted to you (copies enclosed) indicates that the Burns Brothers Motel is a valid operation, open to the public and that no reason exists for the removal of their Logo.

Concerning your comments in Items 1 through 4 of the last paragraph of your letter, I am instructing the appropriate Region Engineers to review each of the sign locations to determine what action, if any, is desirable. The exception to the review is the Hungry Wolf Logos. Both the food and gasoline operations are legal and valid businesses and entitled to a Logo under Travel Information Council rules and regulations.

Enc.

bc Jack Sollis
C. T. Keasey
L. E. George
E. L. Hardt)
C. O. Fredrickson) T.A.A.
Alfred Shirley, Jr.)
Dick Mathew
Blake Eklund

LEG:ds ia

Form FHWA 121 (Rev. 8-73)

UNITED STATES GOVERNMENT

Memorandum

RECEIVED
STATE HWY ENG
JUL 24 '78
REFER TO
FOR
Info | Init | Rec | Ck | Sig | Ret | Sig

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
The Equitable Center, Suite 100
530 Center NE. - Salem OR 97301

DATE: July 19, 1978

In reply refer to: HFO.1-OR 520.61

SUBJECT: Oregon Projects I-80N-0(5)40 and I-5-0(4)11 Motorist Information Signing

FROM : G. L. Green, Division Administrator

NOTED
H. S. COULTER

8/21/78 LE George is drafting reply. JSC

TO : H. S. Coulter, State Highway Engineer

Returned herewith are two letters dated April 10, 1978, with attachments, which request final acceptance of the subject projects. These documents are being returned for the following reasons:

1. Our June 14 memo approved an extension of the June 30 date through December 31, 1978, for the installation of logo sign material from stockpile as requested. All work under this procedure must be completed in a satisfactory manner prior to our final acceptance of the project.

2. A recent field review of the work completed to date on I-5 revealed several nonstandard conditions which must be corrected prior to our acceptance of the project. The location of these unacceptable conditions are:

   a. Fern Valley Road Interchange, Exit 24 - The existing logo which reads "Budget Gas and Diesel" must be removed from both the northbound and southbound Gas sign since the business is actually an ARCO station. A standard ARCO log would be acceptable at this location.

   b. Coburg Interchange, Exit 199 - The existing logo which reads "Truck Stop" must be removed from both the northbound and southbound Gas sign since a Truck Stop is not an appropriate business sign under the standards and because the logo is the size allowed under the revised standards while the sign board and other logos being displayed are the size specified under the original standards.

   c. North Santiam Interchange, Exit 253 - The existing "Motel 6" logo which is presently improperly mounted between the sign supports of the northbound Lodging sign must be removed or the sign revised to meet current standards.

Keasey — Richards
Jackland — Berg
Hopkins — Inloes
Williams — Widmer
Johnsen — Gebauer
Glenn — Church
RECEIVED
JUL 25 1978
CONSTRUCTION BRANCH

d. Woodburn Interchange, Exit 271 - The recently installed supplemental Food signs advertising "McDonalds" are not necessary since the facility is quite visible from the ramps. These signs are not eligible for FAI funding and should be removed for safety reasons.

e. Stafford Road Interchange, Exit 286 - The existing northbound and southbound Lodging signs must be revised as discussed in our memo of May 25. The existing "Burns Brothers" logo should be removed from these signs since Burns Brothers do not operate a motel.

In addition to the above, the following conditions were noted along I-5 which while not directly in conflict with the standards for motorist service signing are conditions or practices which should be corrected or at least avoided in the future:

1. Crater Lake Interchange, Exit 30 - The southbound Gas, Food, and Lodging signs while equipped with slip bases and hinges are mounted so low that an out-of-control vehicle would hit the bottom of the sign panel.

2. Wolfcreek Interchange, Exit 76 - The existing combination Food-Lodging signs have two identical logos (Hungry Wolf) displayed side by side.

3. Military Avenue Interchange, Exit 124 - The existing southbound Food sign is mounted too low (see comments under 1 above).

4. The Gas and Food signs which were just installed in advance of the Fargo Road Interchange, Exit 278 northbound and southbound, were not placed at or near the R/W as required under the standards. This same condition has occurred at several other locations.

A field review of the existing motorist service signing along I-80N is planned for the near future. A separate report will be submitted covering any findings immediately following completion of the review.

R. W. Arms

for G. L. Green

xc: TIC
Regions 1, 2, & 3
Contract Payments
Traffic

TRAVEL INFORMATION COUNCIL

BOX 2251 • SALEM, OREGON • 97308 • Phone (503) 378-3438

ROBERT W. STRAUB
GOVERNOR

COUNCIL MEMBERS:
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MRS. ROBERTA J. FULTON
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ANN HUNT
WILLIAM HEALY
ALEX MURPHY
DAVID POVEY
N. P. STAROPOLI

STAFF:
JACK SOLLIS
Assistant Attorney General
and Counsel

PATTY CALCATERRA
Director

February 9, 1977

Mr. Horth Smith
BURNS BROTHERS
620 S.E. Union Avenue
Portland, Oregon
97214

RE: BURNS BROTHERS MOTEL logo at Stafford #286 - I-5

Dear Mr. Smith:

We have been notified by all agencies concerned that no further action will be taken to remove Burns Brothers Motel logo.

From the Travel Information Council's investigation, Burns Brothers Motel is in compliance with state criteria at this time.

We sincerely regret any inconvenience that this may have caused you and your company.

With very best regards,

Patty Calcaterra

Patty Calcaterra,
Director

PCmtf

B.C.: G.L. GREEN
R.L. SCHROEDER
L.E GEORGE
E.E. BECKMAN

December 15, 1976

Mr. G. L. Green, Division Administrator
Federal Highway Administration
Post Office Box 300
Salem, OR 97308

Dear Mr. Green:

Motorist Services Signing
Stafford Road Interchange
1041A/520.61

Enclosed is a letter from Patty Calcaterra concerning the Burns Brothers Motel. Our last correspondence to you on this matter indicated that we would be in contact with your office. Ms. Calcaterra's letter is self-explanatory.

I would suggest that we take no further action on removing the logo sign unless members of your staff wish to do further checking.

Very truly yours,

(SIGNED BY)
R.L. SCHROEDER

R. L. Schroeder
Assistant State Highway Engineer

Enclosure

bc H. S. Coulter
E. S. Hunter
Jack L. Sollis
L. E. George
W. J. Hart
Patty Calcaterra
LFH:ds:ab

BURNS BROS. TRUCK STATIONS, INC.

(OFFICES)
Passenger & Truck Service
Downtown Portland
620 & 621 S.E. Union Ave. — Portland, Ore. 97214
S.E. Grand Avenue Between Alder & Washington
PHONE 234-7393
238-7395

15 MILES SOUTH OF PORTLAND
AT STAFFORD INTERCHANGE & I-5
Rte. 1, Box 650 — Wilsonville, Ore. 97070
PHONE 638-6811

BURNS BROS. HUSKY
80N & Troutdale Exit
10 Miles East of Portland, Oregon
PHONE 666-1588

BURNS BROS HUSKY OF BOISE
3353 Federal Way
80 N at Broadway Exit
Boise, Idaho 83705
PHONE (208) 342-6801

October 25, 1976

Ms. Patty Calcaterra, Director
Travel Information Council
Room 501, Executive House
325 13th Street, NE
Salem, Oregon 97301

Dear Ms. Calcaterra:

This is in answer to your October 19 letter of non-compliance to the state's motel criteria.

1) Enclosed are copies of our remittances to Washington County for the payment of a 5% motel tax which we have paid for the past five or six years.

2) We have been inspected by the Washington County Health Department and given very high ratings year after year.

3) We have had a gas, food, & lodging sign at exit #286 for the past seven years.

4) Until Nendel's opened its motel, we ran a 100% occupancy rate month in and month out. Our fill rate is now down to 60%. We have rooms available every night, and we do rent them to the motoring public.

5) Restroom facilities are available within the building.

Very truly yours,

BURNS BROS., INC.

MORTON SMITH
Vice President

MS/tm

Enclosures

8252

February 25, 1977

Maryland Casualty Co.
Baltimore 3,
Maryland

Gentlemen:

On February 18, 1977, we wrote to you concerning release of final payment on Contract No. 8252 awarded to Stillwell Construction Co., for the Motorist Service Signing Project on the Pacific Highway (South Unit) in three counties.

Final payment on this contract is $500 and the total contract amount is $127,660.08 including $2,791.28 for work performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

cc Stillwell Construction Co.
13306 S.E. 30th Street
P. O. Box 186
Bellevue, Washington 98009

C. T. Keasey
Walt Hart - Bridge
V. E. Skoog Attn: Dick Hacek
Alfred Shirley

8252

Form FHWA 121 (Rev. 5-73)

8

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem, Oregon 97308

DATE: January 10, 1977

In reply refer to: 1041A.1

SUBJECT: Oregon Project I-5-0(4)11 & I-80N-0(5)40
Motorist Service Signing

FROM : G. L. Green, Division Administrator

TO Mr. H. S. Coulter, State Highway Engineer
Salem, Oregon

Mr. Schroeder's December 29, 1976, letter requested an additional extension of time, through July 1, 1977, for participation in the charges involved with the installation of the logo sign material that was stockpiled under the original contract. The request is hereby approved.

G. K. Hoesmer
for G. L. Green

RECEIVED
STATE HWY ENGR
JAN 12 '77
REFER TO
Schroeder
FOR
Info | Invest | R/D | D/R | Sign | Act

cy Rubin
1-12-77

RECEIVED
JAN 12 1977

1-12-77
Copy To George

December 29, 1976

Mr. G. L. Green, Division Administrator
Federal Highway Administration
Post Office Box 300
Salem, OR 97308

Dear Mr. Green:

On July 2, 1975, three contracts were awarded for the installation and stockpiling of logo signs on I-5 and I-80N. Prior to the award of those contracts your office agreed to participate in the charges involved with the installation of the stockpiled logo sign material for a time period of one year after the award date of the contracts.

On September 27, 1976, we requested and received an extension of time to January 1, 1977, in the continuing installation of logo sign material from the stockpile.

The original contracts showed a total of 130 logo panels to be stockpiled and on this date, we still have 77 sign panels. We are continually reducing our inventory as new logo sales are made.

In order to obtain participation in the continuing installation of logo sign material from the stockpile, it is requested that approval be granted for an extension of the January 1, 1977 date through July 1, 1977.

Very truly yours,

ORIGINAL SIGNED
R.L. SCHROEDER

R. L. Schroeder
Assistant State Highway Engineer

cy Review 1-12-77

bc H. S. Coulter
E. S. Hunter
L. E. George
Jack L. Sollis
V. E. Skoog
Patty Calcaterra
ELS:rj:ab

THIS COPY FOR

8252

FORM 81.734.2030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon 97310

December 14, 1976

FILE:

FROM: L. E. George
Traffic Engineer

TO: C. T. Keasey
Construction Engineer

Attention: Warren Richards

SUBJECT: Logo Sign Installation
West The Dalles Interchange
Columbia River Highway
Wasco County

The Travel Information Council has requested the installation of the stockpiled LODGING logo board for eastbound traffic at West The Dalles Interchange (Exit No. 83) on Interstate 80N.

Please make all arrangements to have the signs installed at the earliest convenient time. The sign and support posts are stockpiled at the sign shop in Salem and the footings are in place at M.P. 82.61.

As discussed with you over the phone, I am sending this order directly to you in lieu of the Region in an attempt to have the signs installed by the January 1, 1977 extension that was granted by FHWA.

L. E. George
Traffic Engineer

ELS:rj
Attachment

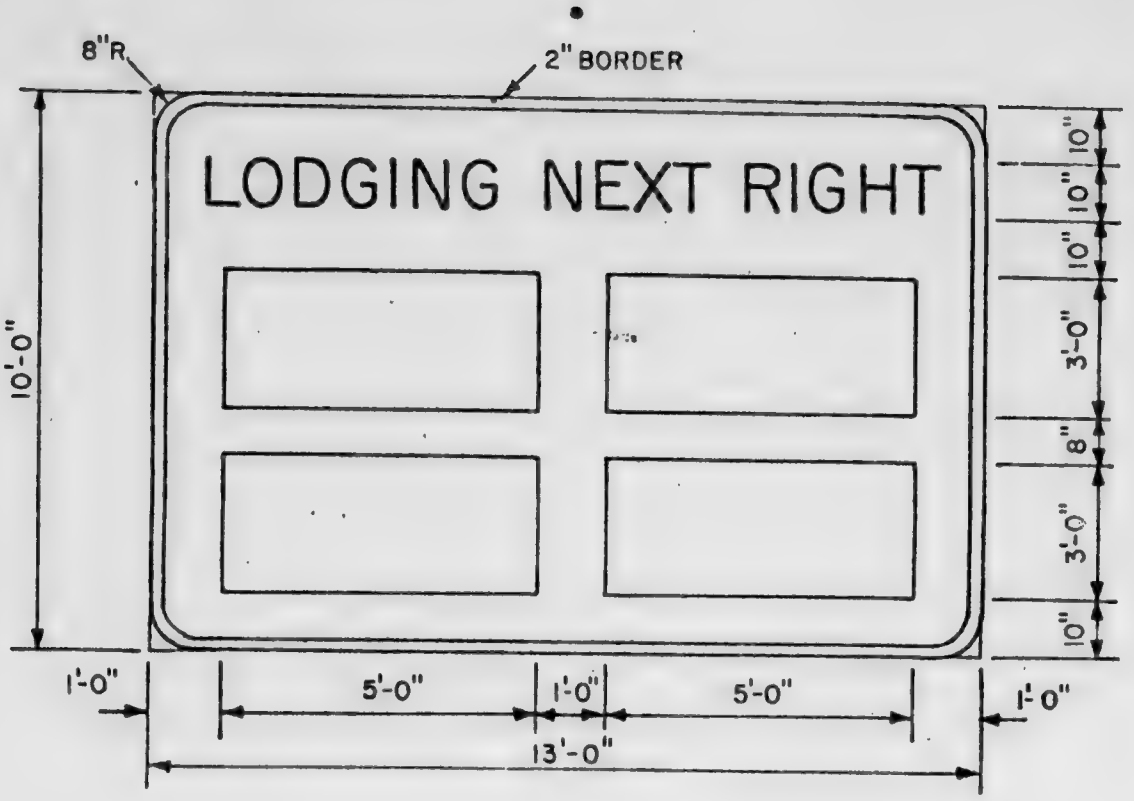
cc: H. S. Coulter
C. M. Williams
Jack Sollis
Bob Shotwell
Patty Calcaterra

RECEIVED
STATE HWY ENGR
DEC 16 '76
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

NOTED
H. S. COULTER

RECEIVED
DEC 16 1976

NOTED
R. L. SCHROEDER


8"R
2" BORDER
LODGING NEXT RIGHT
10'-0"
10"
10"
10"
3'-0"
8"
3'-0"
10"
1'-0"
5'-0"
1'-0"
5'-0"
1'-0"
13'-0"

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem, Oregon 97308

DATE: October 12, 1976

In reply refer to: 1041A.1

SUBJECT: Oregon Projects I-5-0(4)11 and I-80N-0(5)40
Motorist Service Signing Projects

FROM: G. L. Green, Division Administrator

TO: Mr. H. S. Coulter, State Highway Engineer
Salem, Oregon

NOTED
R.D. [illegible]

For the reasons outlined in Mr. Schroeder's September 27 letter, the one year time limit originally stipulated for participation in the charges involved with the installation of stockpiled logo sign material is extended to January 1, 1977, as requested.

G. L. Green

NOTED
ELMER SCOFIELD

NOTED
ELMER SCOFIELD

NOTED
R. L. SCHROEDER

RECEIVED
OCT 15 1976
TRAFFIC ENGINEERING

RECEIVED
STATE HWY ENGR
OCT 15 '76
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

RECEIVED
OCT 14 1976

cc: Sollis

8252

U. S. DEPARTMENT OF TRANSPORTATION - FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

12-7-76

		FEDERAL AID PROJECT NO. I-5-0(4)11
		STATE PROJECT NO. See below
FROM: G. L. Green, Division Administrator, Salem, Oregon	PROGRAM NO.	COUNTY NAME Various
	ITEM NO. I-829	PROGRAM STAGE (Check) ☐ 1. ☐ 2.

TO:

Mr. H. S. Coulter
State Highway Engineer
State of Oregon
Salem, Oregon

NOTED
E. S. HUNTER

RECEIVED
STATE HWY ENGR
DEC 13 '76
REFER TO
Quelin
FOR

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
6-4-75	8-30-76	Interstate 5	Primary 1

GENERAL LOCATION:
"Motor Service Signing - South Unit"

GENERAL DESCRIPTION OF WORK:
Install stockpiled and new signs at mile posts 18.56 NB - 47.85 NB - 49.77 SB - 86.79 SB - 97.33 NB and 100.59 SB

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

☐ PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY

☐ PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION

☐ OTHER (Specify)

☐ ACQUISITION OF RIGHT-OF-WAY

☐ CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS

☒ CONSTRUCTION - PROCEED ON ~~XXXXXXXX XXXXXXXXXX~~ FORCE ACCOUNT BASIS

REMARKS

As requested in Mr. Keasey's letter of 11-3-76 and based on the data submitted, you are authorized to proceed with the use of State Forces as being in the public interest, under State Force Order No. 2 in the amount of $13,250 - Federal Funds $12,220.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
12-9-76	E. H. Holock	Division Administrator

FORM PR-1240 (REV. 6-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

☆ U. S. GOVERNMENT PRINTING OFFICE: 1976-631-855

SP*79302-734

FORM 81-734-3001

OREGON STATE HIGHWAY DIVISION

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE SECTION

SECTION: MOTORIST SERVICE SIGNING PROJECT		WEEK ENDING: October 30, 1976
		SECTION PREFIX: 610-1058
HIGHWAY: PACIFIC (I-5) (SOUTH UNIT)		COUNTY: THREE COUNTIES
NAME OF JOB: MOTORIST SERVICE SIGNING PROJECT	KIND OF WORK: SIGNING INSTALLATIONS	
CONTRACTOR: STILLWELL CONSTRUCTION COMPANY	CONTRACT NUMBER: 8252	FEDERAL AID PROJECT NUMBER: I-5-0(4) 11
DATE OF CONTRACT: JULY 2, 1975	DATE WORK STARTED: SEPTEMBER 30, 1975	ESTIMATED COMPLETION DATE: APRIL 9, 1976
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 0 SUPERVISION: 0	SPECIFIED WORK DAYS	WORK DAYS USED
	SPECIFIED CALENDAR DAYS 175	CALENDAR DAYS USED 253
PROJECT AUTHORIZATION: $ 151,078.72	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED: 144.6%
EXCLUSIVE OF ENGINEERING: $ 139,098.91	ENGINEERING AUTHORIZATION $ 11,979.81	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100%
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 120,960.08	ENGINEERING COST TO DATE $ 12,610.02	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 100%
ESTIMATED PERCENT: [redacted] UNDERRUN 13.0%	This Week 0.00 PERCENT OF AUTHORIZATION 105.3 %	DATE PROJECT WAS COMPLETED: April 9,1976

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK: NONE

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY 24	Rain	0		
MONDAY 25	Clear/warm	0		
TUESDAY 26	Clear/cool	0		
WEDNESDAY 27	Clear	0		
THURSDAY 28	Clear	0		
FRIDAY 29	Rain	0		
SATURDAY 30	Clear	0		

Routing
Keasey K Richards
Bond Glenn
Jackmond Berg
Harwood
Johnsen
Walker

RECEIVED
NOV 1 1976
CONSTRUCTION
SECTION

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK	
SUNDAY 24	NO ACTIVITY
MONDAY 25	Worked on repair of Hinac coating on stockpiled signs thru Friday.
TUESDAY 26	
WEDNESDAY 27	
THURSDAY 28	
FRIDAY 29	
SATURDAY 30	No Activity.

REMARKS

STATUS: Project complete except for repair of Hinac coating on several stockpiled signs.
All final documention received.
Semi-Final Estimate submitted, September 24, 1976.

NEXT WEEK: Finishe trepair of Hinac coating on stockpiled signs.

SIGNED Keith Turner LOCATION _____

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP-F216

8252

October 15, 1976

Stillwell Construction Company
13306 S. E. 30th Street
P. O. Box 186
Bellevue, Washington 98009

Gentlemen:

We have reviewed your request for an extension of time on Contract No. 8252 for work on Motorist Service Signing Project (I-5, South Unit) in three counties.

Careful consideration was given to the reasons you submitted. In light of the available facts, an extension of 72 days is granted because of added work (Extra Work Order No. 1 and Price Agreement No. 2). This is based on 56 days for all the time counted after February 14, 1976 for Extra Work Order No. 1, 14 days extra for checking shop drawings and 2 days for Price Agreement No. 2. This leaves 6 days' liquidated damages in effect.

If you have any further questions, please contact the Resident Engineer, the Regional Engineer, or the Construction Engineer in the Salem office.

Very truly yours,

E. S. Hunter
Deputy State Highway Engineer

bc H. S. Coulter
C. T. Keasey
Robert Church
Alfred Shirley

JAB:fr ja

FORM 81-734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

October 8, 1976

FILE: CON 5 #8252

FROM: John A. Bond
Construction Administration Engineer

TO: E. S. Hunter
Deputy State Highway Engineer

SUBJECT: Motorist Service Signing Project
(I-5, South Unit)
Contract No. 8252
Request for Time Extension

Stillwell Construction Company has requested a complete time extension (78 days have been assessed to the 4-9-76 completion date). This request is similar to two others from the same firm for the other two logo signing contracts and which have recently been processed.

Some pertinent dates on this project are:

Bids opened	6-26-75
Contract sent	7-21-75
Time start	8- 1-75 (175 days allowed)
Work started	9-30-75
Contract time elapsed	1-22-76 (Project 53 percent completed)
All original contract signs installed	2-13-76
Contract completion date	4- 9-76 (78 days liquidated damages at $100 per day)

The contractor asks that no time be counted after 2-14-76 when the original contract work was completed. The Resident Engineer concurs in this, as any work done after February 13 was on Extra Work Order No. 1 for new installations with materials taken from the State stockpile. Fifty-six days extension is derived from this. The contractor also cites excessive time in securing approval of shop drawings. The turn-around time for this was 28 days. Although the Resident Engineer recommends one week extension as excessive checking time, I believe to be consistent with another of the projects where this same reason was considered and where a normal turn-around time of 2 weeks was recognized, we should grant 14 days extension on this reason.

The contractor again cites alleged delay from out of state fabrication and inspection of the steel posts. We do not believe this reason is valid and note that Section 106.02 of the Standard Specs. says to allow up to 45 days notice from the contractor intending out of state fabrication. The contractor again makes reference to "several change orders" and "a great deal of force account work". The Resident Engineer's report does not cover all of this, but I have checked further with him concerning the only other significant change order in the project. This was Price Agreement 2 in the amount of $3,000 to relocate 3 existing signs on new footings

and new posts. The Resident Engineer's office advises me that this work was all done prior to February 13 in conjunction with the regular contract installations. I would recommend 2 additional days on this reason. Time recommended on the three items above amounts to 72 days. This would leave 6 days liquidated damages in effect at $100 per day.

This was an Interstate project. I believe the extension recommended above can be granted participating under delegated authority. A rough draft letter to the contractor is attached.

JAB:fr

Att.

cc: Robert Church

RECEIVED
STATE HWY ENGR
OCT 1 1 '76
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request

for

Increase in Number of Workdays

to

Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 8252 Contractor Stillwell Const. Co.

Highway Pacific

Section Motorist Service Signing

Kind of Work Signing

It is recommended that the request for increase in the number of workdays within which to complete said contract be ~~DENIED~~ or **GRANTED.** The reasons for such recommendation are as follows:

Recommend 72 day time extension of contract time because of Extra Work Order No. 1 and Price Agreement No. 2.

Recommended for Approval:

J. X. Wilson
Division Engineer

Construction Engineer or Bridge Engineer

E. W. Hunter
Deputy State Highway Engineer

State Printing 37920

Contract No. .....

Project designation ..... State-Federal

Date awarded .....

Work started .....

Per cent completed ..... Date

No. of Workdays Allowed .....

No. of Workdays Used .....

No. of Added Workdays Requested .....

RECEIVED

E—220 (Rev.)—5M—8-60

OREGON STATE HIGHWAY COMMISSION

ORE. STATE HIGHWAY DIVISION
RESIDENT BRIDGE ENGINEER
RECEIVED
JUL 30 1976

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date 7/27/, 19 76

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from ..... days to ..... days, within which to complete our Contract No. 8252, without the assessment of liquidated damages. The said contract is described as follows:

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

SEE ATTACHED LETTER

Respectfully submitted,

STILLWELL CONSTRUCTION CO.
Contractor

By W E French

CONSENT OF SURETY

Date 7/27, 19 76

We, MARYLAND CASUALTY CO.

....., as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Darrell D. Thompson
Attorney-in-fact

Darrell D. Thompson (SEAL)
Resident Agent

July 26, 1976

Mr. Keith Martin, R. E.
2100 Scoville Road
Grants Pass, OR 97526

RE: Contract 8252

Dear Mr. Martin:

For sometime now, we have been discussing and resolving the various delays associated with this project. The problems have been numerous but have been or are being revolved/ We are requesting that the calendar day count be rolled back as follows:

Contract 8252 - Day count be stopped as of 2/14/75.

This would result in excess calendar days of 21 days on Contract 8252. This is the date on which the project was substantially completed by us. Only a few extra work items or force account items remained after this time. Since the project was substantially complete as of the above date, we do not feel penalties shoud be assessed for the time since this date as this time has been spent performing extra work orders, force account work and resolving the rivet and hinac problems. Most of the time has been spent on the rivet and hinac problems. Here again, we do not feel we should be assessed damaged for this problem. While the signs were admittedly defective, they were functional and did operate and did serve their intended purpose. Had these deficiencies not been discovered at the time they were, but rather four or five months later, all of this work would have fallen under warranty work and certainly damages would not have been assessed.

The signs were inspected and accepted one by one at the fabricator's plant by the State of Oregon and both our supplier, Traffic Control Sign Co., and your own State inspectors found nothing wrong with the signs at that time. The possibility exists that a case could be made where this defective work would be covered under the warranty work section of the specifications. We have never pressed this case but rather have chosen

to resolve the long and expensive problem ourselves.

In view of the above, we again request that the damages not be assessed for this period of time. We further request time extension from the date of substantial completeon of the project back to the limit of calendar days allowed under the contract.

As we stated in the preconstruction conference on July 21, 1975, we intended to start work on August 15, 1976. Shop drawings for the steel posts were submitted at that meeting and we asked whether the State of California or the State of Oregon would inspect the posts. Numerous questions remained over the exact quantities of posts required and over the post lengths. Our post supplier, Altius Corporation, Finally received approved shop drawings on August 22, 1975, and on August 18, 1975, we were notified that the State of California would do the inspection. It took our supplier and the State of California another three weeks to work out all the technicalities before the State of California gave them authority to proceed. We then fabricated stubs and received them on the jobsite and began installing them on September 29, 1975. This was 45 days behind our intended schedule and due primarily to delays in drawing approval and inspection prodedures. During the course of the contract, several change orders were completed along with a great deal of force account work.

I would also like to point out that towards the end of the project, we broke our sequence of installing posts and signs so as to accommodage the State of Oregon by installing those signs determined to be most necessary. This caused more travel and less efficiency and should certainly be considered in this request.

The day counts allowed on thisproject was exceedingly short and allowed for no slippage on anyone's part. We pursued these jobs with full diligence and when the last of the rivet and hinac panel is repaired we will have given the State of Oregon a first class product in every respect.

In summary, we are therefore requesting time extensions and/or rollbacksof calendar day count sufficient to cover thesproject without the assessment of liquidated damages or other charges. Please contact us if we can supply any additional information.

Very truly yours,

STILLWELL CONSTRUCTION CO.

W. E. French
Operations Manager

'S

a/ Robert Shotwell

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

I 252 LETTER OF APPROV... AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.
1-5-0(4)11 North Unit

ATE PROJECT NO.
Motorist Service Signing

FROM:
G. L. Green, Division Administrator
Salem, Oregon

PROGRAM NO.

ITEM NO.
I-829

COUNTY NAME
See below

PROGRAM STAGE (Check) ☐ 1. ☐ 2.

TO:

Mr. H. S. Coulter
State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
SEP 21 '76
REFER TO
Ruben
FOR

Info	Inves	R/D	D/R	Sign	Act	File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
6/4/75	8/20/76	Interstate Route 5	Primary Route 1

GENERAL LOCATION:
North Tigard Interchange - Roseburg Section of I-5 in Lane, Marion, Linn, Douglas & Multnomah counties.

GENERAL DESCRIPTION OF WORK:
Fabricate and install one 10' x 13' "Food" Logo sign on standard breakaway posts.

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

☐ PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY

☐ PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION

☐ OTHER (Specify)

☐ ACQUISITION OF RIGHT-OF-WAY

☐ CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS

☒ CONSTRUCTION - PROCEED ON ~~XXXXXXXXXX~~ ~~XXXXXXXXXX~~ FORCE ACCOUNT BASIS

REMARKS
As requested in Mr. Keasey's letter of August 23, 1976 and based on the data submitted, you are authorized to proceed with the use of State Forces as being in the public interest, under State Force Order No. 6 in the amount of $2,200 - Federal Funds $2,030.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
9/3/76	for G. K. Hammer	for Division Administrator

FORM PR-1240 (REV. 8-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

SP*79602-724

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

8252 8-17-76

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.
5-0(4)11

STATE PROJECT NO.
See below

FROM:
G. L. Green, Division Administrator
Salem, Oregon

PROGRAM NO.

COUNTY NAME
Various

ITEM NO.
I-829

PROGRAM STAGE (Check)
☐ 1. ☐ 2.

TO:

Mr. H. S. Coulter
State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
AUG 26 '76
REFER TO
Review
FOR

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
6-4-75	7-15-76	Interstate Route 5	Primary Route 1

GENERAL LOCATION:
"Motor Service Signing - North Unit" - Lane, Marion, Linn, Douglas and Multnomah Counties"

GENERAL DESCRIPTION OF WORK:
Remove seven Logo signs and posts on I-5 Q Street Interchange M.P. 194 per Traffic Information Council.

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

PRELIMINARY ENGINEERING TO DETERMINE
☐ LOCATION ONLY
PRELIMINARY ENGINEERING FOR SURVEY AND PLAN
☐ PREPARATION

☐ OTHER (Specify)

☐ ACQUISITION OF RIGHT-OF-WAY
CONSTRUCTION - ADVERTISE FOR RECEIPT
☐ OF BIDS

☒ CONSTRUCTION - PROCEED ON ~~AN AGREED~~ XXXXXXXXX ~~PRICE AND/OR~~ XXXXXXXXXX FORCE ACCOUNT BASIS

REMARKS

As requested in Mr. Keasey's letter of 8-9-76 and based on the data submitted, you are authorized to proceed with the use of State Forces as being in the public interest, under State Force Order No. 5 in the amount of $700 - Federal Funds $645.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
8-19-75	G. K. Hammond	Division Administrator

FORM PR-1240 (REV. 8-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

SP*70802-734

1-5

FORM 81-734 1030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon 97310

January 13, 1976

FILE:

FROM: L. E. George
Traffic Engineer

TO: Al Shirley, Jr.
Region III Engineer

SUBJECT: Sign Installation
Motorist Service Signing Project
Pacific Hwy. (S-Unit)
Contract No. 8252

The Travel Information Council has sold a Logo panel for both directions of travel at the Sunny Valley Interchange.

Will you please have the contractor install the 13' X 6' CAMPING sign at M.P. 70.34 NBD and 72.61 SBD.

The contract plans called for these signs to be stockpiled. According to the Special Provisions, we can call for installation of stockpiled signs during the life of the contract and make payment as "Extra Work".

L. E. George
Traffic Engineer

ELS:rj
Attachment
cc: Keith Martin
Patty Calcaterra
Jack Sollis
Adrian Olson

Verstoeg ✓
Olson
Terp'n
Scott
Swenson
Anderson
Trout

RECEIVED
JAN 14 1976
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Routing
Other

SPECIAL PROVISIONS

Motorist Service Signing Project
Pacific Highway (I-5) [S. Unit]

WORK TO BE DONE

The work to be done under this contract consists of the following work on the Motorist Service Signing Project, South Unit of the Pacific Highway between Myrtle Creek and the California State Line.

1. Fabrication of signs and sign supports.

2. Installation and stockpiling of signs and sign supports.

3. Performance of such additional and incidental work as is called for by the specifications and plans.

APPLICABLE STANDARD SPECIFICATIONS

The Standard Specifications which are applicable to the work on this project are the 1974 edition of the "Standard Specifications for Highway Construction".

All number reference in these special provisions shall be understood to refer to the Section or subsection of the Standard Specifications bearing like numbers.

SECTION 102 - BIDDING REQUIREMENTS AND CONDITIONS

102.19 Plans - The plans which are applicable to the work to be performed under this contract bear title and date as follows:

"Signing
Motorist Service Signing Project
Pacific Highway (I-5) [S. Unit]
Three Counties
June, 1975"

SECTION 104 - SCOPE OF WORK

104.04 Extra Work - It is anticipated that during the life of this contract additional logo signs will be sold by the State which will necessitate the installation of some of the signs which the plans call for stockpiling. Payment for installation of these additional signs will be made as "Extra Work".

8252

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon 97310

December 31, 1975

FILE:

FROM: L. E. George
Traffic Engineer

TO: Alfred Shirley, Jr.
Region III Engineer

SUBJECT: Signing Revisions
Motorist Service Signing Project
Pacific Hwy. (I-5)(South Unit)
Three Counties
Contract No. 8252

Due to recent LOGO sales the Travel Information Council has requested that we install the supports and sign panels at three locations on the above named contracts. Under the terms of the contract the stubs and footings were to be installed and the supports and sign panels stockpiled.

A summary of the work shown on the attached plans is as follows:

Interchange	Logo Sign	Location	Size
Green Springs	CAMPING	M.P. 12.90 (NBD)	13' X 6'
Green Springs	CAMPING	M.P. 15.47 (SBD)	13' X 6'
South Canyonville	GAS	M.P. 99.12 (SBD)	15' X 10'

Will you please have the contractor install the stockpiled supports and signs under a price agreement.

L. E. George
Traffic Engineer

ELS:rj
Attachments
cc: H. S. Coulter
Jack Sollis
Adrian Olson
Patty Calcaterra
Keith Martin

NOTED
H.S. COULTER

RECEIVED
JAN 5 1976
Office of
Assistant State Highway Engineer

I-5

Salem, Oregon
October 17, 1975

Frank E. Terpin
Final Design Engineer

Robert E. Shotwell
Resident Engineer

Keith L. Martin
Resident Engineer

Revised Sign Shop Drawings
Motorist Service Signing Project
Pacific, Columbia River and Old
Oregon Trail Highways
Contract Nos. 8252, 8253 and 8260

Enclosed find revised corrected sign shop drawings on the above-named project. The sign fabricator contacted this office with questions regarding word lengths and spacing between words and borders. Upon receipt of the drawings it was decided that the best way to relay the corrections to all parties involved was with revised drawings.

The revised drawings cover all questioned signs on the above three contracts thus there are signs that may or may not appear in the individual contracts.

In view of the short time period until contract completion dates, the revised shop drawings are being sent directly to the involved parties.

WGB:we
cc: C. T. Keasey
Ed Rief, w/attach.
Traffic Control Signs Company w/attach.
W. G. Beard

/ Versteeg
A. Olson
Terpin
Scott
Swenson
R. Olson
Trout

RECEIVED
OCT 17 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep ☐
Do not File ☐
Return To
Bring Up / /
Other

8252

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

August 12, 1975

FILE:

FROM: J. H. Versteeg
Road Design Engineer

SUBJECT: Logo Sign Project
South Unit
Pacific Highway

TO: MEMORANDUM TO THE FILES

Guidelines for the establishment of the logo signs and the development of a sign project were developed in a discussion with E. J. Valach, FHWA, L. E. George, A. D. Olson, Bryant Jackmond and the writer. It was felt that the cost of relocating existing logo signs to comply with rigid guidelines was not appropriate.

Selected sign locations were then cross sectioned by engineering crews and field checked by experienced designers from this office. To the best of our knowledge the sign locations shown on the plans were appropriate for the intended use.

Based on the information available to this office the benefits of relocating the existing logo signs are not readily apparent.

JHV:jh
cc: L. E. George
C. T. Keasey
Alfred Shirley
A. D. Olson

Versteeg
A. Olson
1 Terpin T
Scott
Swenson
R. Olson
Trout

RECEIVED
AUG 12 1975
ROAD DESIGN SECTION

Reply
Approval
Other

STATE COPY

I-5

CC: OSHD (Design)
OSHD (Region 3)
G K Hossner

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

INSPECTION REPORT

REGION NO.	REPORT ON	DIVISION
10	LOGO Sign Placement	Oregon
DATE OF INSPECTION	INSPECTION MADE BY	PROJECT NO.
7-28-75	T. P. Lowe, Area Engr	I-5-0(4)11
IN COMPANY WITH	Keith Martin, RE; Kib Osburn, Traffic Engr; Dave Jones; OSHD	

REMARKS

COPY SENT
AUG 06 1975

MOTORIST SERVICE SIGNING PROJECT
(South Unit)

SCOPE: The above persons attended a meeting in Eugene to consider State design changes on the subject project.

SUMMARY OF FINDINGS:

Many of the "planned" locations of signs are incompatible with the terrain and other roadside features. Regional personnel have expended considerable effort in custom-fitting the desired LOGO's to field conditions. The existing LOGO signs are being utilized as much as possible.

Attached is a list of LOGO's as modified to fit the field conditions.

The contract is for 71 new LOGO signs. The region recommended 21 changes in sign locations and the addition of 3 new sign supports. A price agreement will be prepared as soon as new sign post lengths can be determined in the areas where safety overlay construction is underway. In the meantime, contract time will not be charged against the contractor.

I commend the Region for their extra effort in customizing the design to provide a more effective end result.

L. Verstrong ✓
A. Olson
2 Terpin
Scott
3 Swenson
R. Olson
Trout

RECEIVED
AUG - 6 1975
ROAD DESIGN SECTION

Reply
Approval
Review Kemp
Do not File
Return To
Bring Up
Other

FORM PR-33 (REV. 5-70) EDITION OF 7-67 MAY BE USED

F 2 0 2 4

STATE OF OREGON 1859

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator of Highways

OREGON STATE HIGHWAY DIVISION

P.O. Box 306
Grants Pass, Oregon 97526

Stillwell Construction Co.
P.O. Box 186
Bellevue, Washington 98009

Route
Keene
Board
Richmond
Horwood
Walker
Richards
Glenn
Berg

RECEIVED
JUL 21 1975
CONSTRUCTION SECTION

July 23, 1975

NOTED
H. S. COULTER

Re: Motorist Service Signing
Pacific Highway I-5 (S. Unit)
Three Counties
Contract #8252

A pre-job conference for the subject project was held@11:00 AM, 18 July 1975, in Eugene, Oregon with the following listed people in attendance:

Marion Craft ----------OSHD
Lionel Trommlitz ----------OSHD
Dave Jones ----------OSHD
David Cordero ----------OSHD (Grants Pass)
R.C. Etherington ----------OSHD (Grants Pass)
K.L. Martin ----------OSHD (Grants Pass)
Jim Cook ----------Stillwell Const. Co.
Jim Stillwell ----------Stillwell Const. Co.
Bill French ----------Stillwell Const. Co.
Bob Stenerson ----------OSHD (Albany)
Bryant Jackmond ----------OSHD (Salem)
Bob Shotwell ----------OSHD (Portland)
Joe Simpson ----------OSHD (Portland)
Kipp Osborn ----------OSHD(Roseburg)
Rich Sjolander ----------OSHD (Roseburg)
Dick Young ----------OSHD (Safety)
Mike Wall ----------Altius (Fabricator)

The prejob for this project was held in conjunction with the conference for two other Logo Signing Contracts with Stillwell Construction as contractor and Bob Shotwell as Resident Engineer. Mr. Stillwell stated that he intended to start on this project before he commenced the other two contracts. When told many of the sign locations had changed and some additional signs and posts were contemplated, he decided to start on the project east of Portland. He was informed that extent of the changes had not been determined at this time. Mr Wall of Altius Corporation requested at least an estimate of post size so he can order stub material. He needed to order in next three days to tie down source. I told him we would give him our best estimate on Monday. Mr Stillwell stated that they had a slack period and expected to finish these projects in advance of the specified completion date.

Shop drawings were submitted for approval at the conference. The contractor was told we could not take any action to approve the drawings until the final sign locations were chosen and the post lengths could be verified.

RECEIVED
JUL 1975
Office of
Assistant State Highway Engineer

Form 81-734-3122

July 23, 1975
Contract #8252

It was decided that posts and stubs should be stamped with the indentifying number. Jim Cook asked if the stubs could be fabricated and installed as they were not contingent on verification of post length. He was reminded that the size of stub would change if the length was significantly changed. Mr Cook also requested permission to use a special foundation with dowels into the rock if solid rock was encountered. He was told each case would be considered individually.

The contractor was told to not leave waste concrete or spoil on the right-of-way. The packet of E.E.O., safety and minimum wage requirements and posters were given to the contractor. The contractor has several on going federal aid projects in the state of Oregon and was sure he would have no trouble complying with the E.E.O. and minimum wage requirements.

Safety and traffic control were then discussed , with the contractor reminded that several sections next to guard rail with a narrow shoulder would require closing a lane. The contractor said he would come prepared with suitable signs. During the safety portion of the meeting, the emergency medical plan to include the telephone number and address of ambulances and hospitals were discussed. The contractor was reminded of the need to have a man on the job trained in first aid and that first aid kits had to have the approved items.

Sincerely,

Keith L. Martin
Resident Engineer

KLM:jr

cc: Region Engr.
Const. Engr. ✓
File (2)

8252

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

6-4-75

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.: 5-0(4)11 (South Unit)

STATE PROJECT NO.: I-5 Motor Service Signing

FROM: G. L. Green, Division Engineer
Salem, Oregon

PROGRAM NO.:

ITEM NO.: I-829

COUNTY NAME: Douglas, Josephine, Jackson

PROGRAM STAGE (Check): [ ] 1. [XX] 2.

TO:

Mr. F. B. Klaboe
Administrator & State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED STATE HWY ENGR
JUL 23 '75
REFER TO
FOR
Info
Inves
R/D
D/R
Sign
Act
File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER / STATE ROUTE NUMBER
June 4, 1975	June 4, 1975	Interstate Route 5 / Primary Route 1

NOTED E. S. HUNTER

GENERAL LOCATION:

Roseburg - South Ashland Interchange Section of I-5

GENERAL DESCRIPTION OF WORK:

Install footings, posts and panels for mounting motor service signs (Logo Signs)

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

- [ ] PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY
- [ ] PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION
- [ ] OTHER (Specify)
- [ ] ACQUISITION OF RIGHT-OF-WAY
- [ ] CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS
- [ ] CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

Mr. Rulien's June 2, 1975 request and certifying documents are accepted.

PS&E documents for the subject project have been reviewed and are approved.

A signed title sheet is returned herewith.

7-24-75
ORIGINAL TO
L. W. Rulien
w/att.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
6-4-75	C R Bergquist for	Division Engineer

FORM PR-1240 (REV. 6-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

Transaction Number 6-43 and 6-44

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS

(PPM 21-1)

STATE HIGHWAY DEPARTMENT: Oregon

DATE: 6-2-75

BY (Signature): L. W. Rulien's May 19, 1975 letter

TITLE: Project Management Engineer

CLASS OF FEDERAL FUNDS: [X] FAI [ ] FAP [ ] FAU [ ] FAS [ ] OTHERS

STAGE 1 * ITEM NOS. ____ THRU ____

STAGE 2 * ITEM NOS. 829 THRU 830

ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS
829	I-5-0(4)11	0.0	462,000	426,300
830	I-80-0(5)40	0.0	435,000	401,400

OTHER IDENTIFICATION AND/OR REMARKS (State)

Location	Work
I-5 South Ashland Interchange — North Tigard Interchange — Jackson, Josephine, Douglas Lane, Linn, Marion, Clackamas, and Multnomah Counties State of Oregon	Signing (Logo Signs)
I-80N Cascade Locks Interchange — N. Ontario Interchange — Hood River, Wasco, Sherman, Gilliam, Morrow, Umatilla, Union, Baker, and Malheur Counties, State of Oregon	Signing (Logo Signs)

RECEIVED
STATE HWY ENGR
JUN 4 '75

REFER TO Hunter

FOR

Info	Inves	R/D	D/R	Sign	Act	File
					✓	

REMARKS (Division)

NOTED
L. E. JOHNSON

RECOMMENDED

DATE: ____ SIGNATURE AND TITLE: ____

APPROVED

DATE: 6-2-75 SIGNATURE AND TITLE: O. K. Burghardt for Division Engineer

* Program approval and any authorization to proceed with a Stage 1 project shall not constitute any commitment of Federal funds nor shall it be construed as creating any obligation on the part of the Federal Government to provide Federal funds for the undertaking.

FORM PR-48 (Rev. 8-71).

GPO 915-690

E952

R

PRO 6-2

May 19, 1975

TO G. L. Green, Division Engineer
Federal Highway Administration

FROM L. W. Rullen
Project Management Engineer

SUBJECT Program Data Submission
Project Nos. I-5-0(4) and I-80N-0(5)

We are submitting program data for two projects, Item Nos. 829 and 830, Project Nos. I-5-0(4)11 and I-80N-0(5)40, "Motor Service Signing Projects", which we desire to have included in the Federal-aid Interstate Highway Program.

It is our present intention to receive bids for these projects on June 19, 1975.

We request your concurrence that the projects fall in the classification of nonmajor action as set forth in FHPM 7-7-2, par. 10a.

For Item No. 830 we request a waiver of Districts 9, 12 and 13 Clearinghouse A-95 reviews based on the fact that the work involved is such that it will not affect decisions or other public works activities of concern to clearinghouse agencies, or result in significant alteration of land-use or traffic-flow patterns which would require changes in planning completed or underway.

DRH:js

Budget Bureau No. 41-R2067; Approv

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO H. Q.

FORM PR-1 (REV. 4-61)

5-19-75

U.S. DEPA BUR

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

CARD 2	REPORT NUMBER (19)(20)	PROJECT LOCATION (45 typewriter spaces) 21	68	ADT	PRESENT	FUTURE (66)	YEAR (70)(71)(72)	REGION	STATE NAME	ST CO (2)
	1	I-5, South Ashland Int.-North Tigard Int.			N/A	N/A		10	Oregon	

CARD 3	CHARACTER OF PROPOSED WORK (35 typewriter spaces) 28 62	NATL. FOREST (63)(65)	FH ROUTE NO. (66)(69)	SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72)(73)	PL. AUTH YR (74)(75)	PROJECT NUMBER PREFIX LETTER(S) 14 23	NUMBER 7	SEQ. (4
	Signing (Logo Signs)								I-	5-0	

CARD 4	CLASS OF FEDERAL FUNDS		COUNTY NAME		CODE (14)(16)
	Interstate		See Back		
	NAME OF URBAN AREA 17-31		ROUTE NO.	FEDERAL-AID (32)	STATE (36)(37)	U.S. (41)
	See Back		I	I-5	1	I-5

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE (43 46)	STEP (53)	TERMINI (Full description)	MILES (54)(58)	TOTAL ESTIMATED COST (59)(66)	FEDERAL FUNDS (67)(70)	STATE FUNDS	OTHER FUNDS
7	(1415)	16	41	42								
S					PE		I-5, South Ashland Intchge.-North Tigard Intchge.					
S					ROW							
S					CONST (CODE) Y002		"Motor Service Signing Project"	0.0	462,000	426,300	35,700	
							PROJECT TOTALS	0.0	462,000	426,300	35,700	

CARD 1	CODE 1	PREPARED BY	
1	14	PROGRAM APPROVAL DATES	(16)(23)(24)(33) REMARKS

Ins pos mou ser (Lo

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Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FORM PR-1 (REV. 4-61)

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

5-19-75

PROJECT LOCATION (45 typewriter spaces)	ADT	PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPN CODE	ITEM NO.
South Ashland Int.-North Tigard Int.		N/A	N/A		10	Oregon	41	042	829

WORK (35 typewriter spaces)	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.	I. Projects Only POST MI.	I. Projects Only DESIG.
(Signs)								I-	5-0	(4)	11	

	COUNTY NAME	CODE	PROGRAM STAGE
Interstate	See Back		1 OR [X] 2
See Back	ROUTE NO. I FEDERAL-AID I-5	STATE 1	U.S. I-5

WORK TYPE	STEP	TERMINI (Full description)	MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
		I-5, South Ashland Intchge.-North Tigard Intchge.						Inst. footings, posts & panels for mounting motor service signs (Logo Signs)
W								
NST (or) 002		"Motor Service Signing Project"	0.0	462,000	426,300	35,700		
PROJECT TOTALS			0.0	462,000	426,300	35,700		

ESTIMATED PROJECT COST BY PHASES

OVAL DATES

REMARKS

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MOTOR SERVICE SIGNING PROJECT
PROJECT NO. I-5-0(4)11

Project Data: The project consists of installing footings, posts and information panels, at designated locations tabulated below, for mounting individual signs to give the motoring public specific service information available on the crossroads at or near the interchange.

Mile Post	Interchange	County	County Code	Section	Urban Area
11	South Ashland	Jackson	029	1	
14	Green Springs	Jackson	029	1	Ashland
19	North Ashland	Jackson	029	1	
21	Valley View Road	Jackson	029	1	
24	Fern Valley Road	Jackson	029	1	
27	Barnett Road	Jackson	029	1	Medford
30	Crater Lake	Jackson	029	1	Medford
32	Central Point	Jackson	029	1	
40	Kane Creek	Jackson	029	1	
43	Rock Point	Jackson	029	1	
45A	Homestead	Jackson	029	1	
48	Rogue River	Jackson	029	1	
55	East Grants Pass	Josephine	033	1	Grants Pass
58	North Grants Pass	Josephine	033	1	Grants Pass
61	Louse Creek	Josephine	033	2	
71	Sunny Valley	Josephine	033	2	
76	Wolf Creek	Josephine	033	2	
98	South Canyonville	Douglas	019	2	
99	North Canyonville	Douglas	019	2	
108	Myrtle Creek	Douglas	019	2	
125	Garden Valley Road	Douglas	019	3	Roseburg
136	Sutherlin	Douglas	019	3	
148	Rice Hill	Douglas	019	3	
150	Yoncalla	Douglas	019	3	
174	Cottage Grove	Lane	039	3	Cottage Grove
182	Creswell	Lane	039	3	
189	McVay	Lane	039	3	Eugene
191	Glenwood	Lane	039	3	Eugene
194	"Q" Street	Lane	039	4	Eugene
195	Belt Line Road	Lane	039	4	Eugene
199	Coburg Road	Lane	039	4	
209	Diamond Hill	Linn	043	4	
233	Santiam	Linn	043	4	Albany
234B	North Albany	Linn	043	4	Albany
253	North Santiam	Marion	047	5	Salem
256	Market Street	Marion	047	5	Salem
258	Hayesville	Marion	047	5	
271	Woodburn	Marion	047	5	
282	Hubbard	Clackamas	005	5	
294	North Tigard	Multnomah	051	6	

IM 50-1-70 Requirements: Exempt from State Clearinghouse an
2, 3, 4, 5, 6 and 8 Clearinghouse A-95 reviews under working

FHPM 7-7-2 Requirements: Nonmajor action project.

FHPM 7-7-5 Requirements:

(a) Public Hearings - - - None required under provisio
graph 6c.

(b) Design Approval - - - Considered given by FHWA whe
al Standards (National Standards and Criteria fo
Highway Signs within Interstate Rights-of-Way Gi
Service Information for the Traveling Public) we
January 17, 1969, as Part 22, Chapter I of Title
Federal Regulations. FHWA concurred by memoran
February 15, 1972.

Note: (1) This project is in Congressional Districts 1, 2
(2) On-the-job trainees, as set forth in FHWA order
7-2(2), on this project will be determined at PS
and the number stipulated in the PS & E document

Data for PR-37:

Clackamas - - - - - - - - - - -	Est. Cost	$ 3,200.00
Douglas - - - - - - - - - - - -	Est. Cost	57,000.00
Jackson - - - - - - - - - - - -	Est. Cost	158,200.00
Josephine - - - - - - - - - - -	Est. Cost	72,800.00
Lane - - - - - - - - - - - - -	Est. Cost	98,100.00
Linn - - - - - - - - - - - - -	Est. Cost	15,800.00
Marion - - - - - - - - - - - -	Est. Cost	50,600.00
Multnomah - - - - - - - - - -	Est. Cost	6,300.00
	Total Est. Cost	$462,000.00

MOTOR SERVICE SIGNING PROJECT
PROJECT NO. I-5-0(4)11

project consists of installing footings, posts and
at designated locations tabulated below, for mount-
s to give the motoring public specific service
le on the crossroads at or near the interchange.

change	County	County Code	Section	Urban Area
hland	Jackson	029	1	
rings	Jackson	029	1	Ashland
land	Jackson	029	1	
iew Road	Jackson	029	1	
ley Road	Jackson	029	1	
oad	Jackson	029	1	Medford
ake	Jackson	029	1	Medford
oint	Jackson	029	1	
ek	Jackson	029	1	
t	Jackson	029	1	
	Jackson	029	1	
er	Jackson	029	1	
nts Pass	Josephine	033	1	Grants Pass
nts Pass	Josephine	033	1	Grants Pass
eek	Josephine	033	2	
lley	Josephine	033	2	
k	Josephine	033	2	
nyonville	Douglas	019	2	
nyonville	Douglas	019	2	
reek	Douglas	019	2	
lley Road	Douglas	019	3	Roseburg
	Douglas	019	3	
	Douglas	019	3	
	Douglas	019	3	
rove	Lane	039	3	Cottage Grove
	Lane	039	3	
	Lane	039	3	Eugene
	Lane	039	3	Eugene
t	Lane	039	4	Eugene
Road	Lane	039	4	Eugene
ad	Lane	039	4	
ill	Linn	043	4	
	Linn	043	4	Albany
any	Linn	043	4	Albany
tiam	Marion	047	5	Salem
reet	Marion	047	5	Salem

Mile Post	Interchange	County	County Code	Section	Urban Area
258	Hayesville	Marion	047	5	Salem
271	Woodburn	Marion	047	5	Woodburn
282	Hubbard	Clackamas	005	5	
294	North Tigard	Multnomah	051	6	Portland

IM 50-1-70 Requirements: Exempt from State Clearinghouse and Districts 2, 3, 4, 5, 6 and 8 Clearinghouse A-95 reviews under working agreements.

FHPM 7-7-2 Requirements: Nonmajor action project.

FHPM 7-7-5 Requirements:

(a) Public Hearings - - - None required under provisions of paragraph 6c.
(b) Design Approval - - - Considered given by FHWA when the National Standards (National Standards and Criteria for Official Highway Signs within Interstate Rights-of-Way Giving Specific Service Information for the Traveling Public) were issued January 17, 1969, as Part 22, Chapter I of Title 23, Code of Federal Regulations. FHWA concurred by memorandum dated February 15, 1972.

Note: (1) This project is in Congressional Districts 1, 2 and 4.
(2) On-the-job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at PS & E stage and the number stipulated in the PS & E documents.

Data for PR-37:

Clackamas - - - - - - - - - - -	Est. Cost	$ 3,200.00
Douglas - - - - - - - - - - - -	Est. Cost	57,000.00
Jackson - - - - - - - - - - - -	Est. Cost	158,200.00
Josephine - - - - - - - - - - -	Est. Cost	72,800.00
Lane - - - - - - - - - - - - -	Est. Cost	98,100.00
Linn - - - - - - - - - - - - -	Est. Cost	15,800.00
Marion - - - - - - - - - - - -	Est. Cost	50,600.00
Multnomah - - - - - - - - - - -	Est. Cost	6,300.00
	Total Est. Cost	$462,000.00

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO W. O.

FORM PR-1 (REV. 4-61)

5-19-75

Budget Bureau No. 41-R2067; App

U.S. DEP BU

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

CARD 2 — REPORT NUMBER (10)–(20): 1

PROJECT LOCATION (45 typewriter spaces) (21–66): I-80N, Cascade Locks Int.-N. Ontario Int.

ADT — PRESENT: N/A — FUTURE: N/A — YEAR (68–72)

REGION: 10

STATE NAME: Oregon

CARD 3 — CHARACTER OF PROPOSED WORK (35 typewriter spaces) (28–62): Signing (Logo Signs)

NATL. FOREST (63–65)

FH ROUTE NO. (66–68)

SUPV AGCY (69)

DA CLASSIF. (70)

DA AREA (71)

EMERG. YR. (72–73)

PL. AUTH YR. (74–75)

PROJECT NUMBER — PREFIX LETTER(S) (14–15): I- — NUMBER (16–23): 80-0 — SEC

CARD 4 — CLASS OF FEDERAL FUNDS: Interstate

NAME OF URBAN AREA (17–31): See Back

COUNTY NAME: See Back — CODE (14)–(16)

ROUTE NO. I — FEDERAL-AID: I-80N — STATE (32): 2 & 6 — U.S. (36)–(37): I-80N (41)

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	WORK STEP	TERMINI (Full description)	MILES	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	
1	(1)-(5)	(10)	41	42	43–46	53		(54)–(59)	(60)–(66)	(67)–(76)			
5					PE		I-80N, Cascade Locks Intchge.-N. Ontario Intchge.						Inst post moun serv sign
5					ROW								
5					CONST (CODE) Y002		"Motorist Service Signing Project"	0.0	435,000	401,400	33,600		
							PROJECT TOTALS	0.0	435,000	401,400	33,600		

(10) (23) (24) (33) REMARKS

CARD 1 — CODE 1 — PREPARED BY

CARD 1 — CODE 14 — PROGRAM APPROVAL DATES

-over-

FORM PR-1
(REV. 4-61)

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

5-19-75

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

PROJECT LOCATION (45 typewriter spaces)		PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPN CODE	ITEM NO.
ON, Cascade Locks Int.-N. Ontario Int.	ADT	N/A	N/A		10	Oregon	41	042	830

WORK (35 typewriter spaces)	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH Y.R.	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.	I. Projects Only POST MI.	DESIG.
ns)								I-	80-0	(5)	40	N

	COUNTY NAME	CODE	PROGRAM STAGE
Interstate	See Back		
See Back	ROUTE NO. I / FEDERAL-AID I-80N / STATE 2 & 6 / U.S. I-80N		[ ] 1 OR [X] 2

WORK TYPE	STEP	TERMINI (Full description)	MILES	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
		I-80N, Cascade Locks Intchge.-N. Ontario Intchge.						Inst. footings, posts & panels for mounting motor service signs (logo signs)
W								
NST		"Motorist Service Signing Project"	0.0	435,000	401,400	33,600		
		PROJECT TOTALS	0.0	435,000	401,400	33,600		

AL DATES

REMARKS

-over-

MOTORIST SERVICE SIGNING PROJECT
PROJECT NO. I-80N-0(5)40

Project Data: The project consists of installing footings, posts and information panels, at designated locations tabulated below, for mounting individual signs to give the motoring public specific service information available on the crossroad at or near the interchange.

Intchge. Mile Post	Interchange	County	County Code	Section	Urban Area
44	Cascade Locks	Hood River	027	2	
62	W. Hood River	Hood River	027	2	
63	2nd Street	Hood River	027	3	
64	E. Hood River	Hood River	027	3	
82	Chenoweth Creek	Wasco	065	3	
83	W. The Dalles	Wasco	065	3	The Dalles
84	W. 2nd St.	Wasco	065	3	The Dalles
85	Brewery Grade	Wasco	065	3	The Dalles
87	The Dalles Bridge	Wasco	065	3	The Dalles
104	Biggs	Sherman	055	3	
109	Rufus	Sherman	055	3	
137	Arlington	Gilliam	021	4	
164	Boardman	Morrow	049	5	
182	Hermiston	Umatilla	059	5	
202	Barnhart	Umatilla	059	5	
207	W. Pendleton	Umatilla	059	5	Pendleton
209	Emigrant Ave.	Umatilla	059	5	Pendleton
210	S. Pendleton	Umatilla	059	5	
259	W. LaGrande	Union	061	6	LaGrande
261	Wallowa Lake	Union	061	6	LaGrande
265	Union Jct.	Union	061	6	
285	N. Powder	Union	061	6	
304	Campbell St.	Baker	001	7	Baker
206	S. Baker	Baker	001	7	
374	N. Ontario	Malheur	045	8	Ontario

IM 50-1-70 Requirements:

(a) State Clearinghouse and District 2 & 14 Clearinghouses - - exempt from A-95 review under working agreements dated April 28, 1970, October 16, 1970 and August 11, 1970, respectively.

(b) District 9, 12 & 13 Clearinghouses - - - Waiver of A-
reviews being requested under program submittal let
based on the fact the work is solely installation o
along the roadway.

FHPM 7-7-2 Requirements: Nonmajor action project.

FHPM 7-7-5 Requirements:

(a) Public Hearings: None required under provisions of
6c.

(b) Design Approval: Considered given by FHWA when the
standards (National Standards and Criteria for Off
Highway Signs within Interstate Rights-of-Way Givi
Service Information for the Traveling Public) were
January 17, 1969, as Part 22, Chapter I of Title 2
Federal Regulations. FHWA concurred by memorandum
February 15, 1972.

Note: (1) This project is in Congressional District No. 2.
(2) On-the-job trainees, as set forth in FHWA order in
7-2(2), on this project will be determined at FS &
and the number stipulated in the PS & E documents.

Data for PR-37:

Baker Co. - - - - - - - - - - - - - - -	Est. Cost	$ 29,500
Gilliam Co. - - - - - - - - - - - - - -	Est. Cost	22,100
Hood River Co.- - - - - - - - - - - - -	Est. Cost	81,100
Malheur Co. - - - - - - - - - - - - - -	Est. Cost	7,400
Morrow Co.- - - - - - - - - - - - - - -	Est. Cost	22,100
Sherman Co. - - - - - - - - - - - - - -	Est. Cost	29,500
Umatilla Co.- - - - - - - - - - - - - -	Est. Cost	99,500
Union Co. - - - - - - - - - - - - - - -	Est. Cost	66,400
Wasco Co. - - - - - - - - - - - - - - -	Est. Cost	77,400
	Total Est. Cost	$435,000

MOTORIST SERVICE SIGNING PROJECT
PROJECT NO. I-80N-0(5)40

The project consists of installing footings, posts and
els, at designated locations tabulated below, for mount-
signs to give the motoring public specific service infor-
e on the crossroad at or near the interchange.

terchange	County	County Code	Section	Urban Area
de Locks	Hood River	027	2	
od River	Hood River	027	2	
treet	Hood River	027	3	
od River	Hood River	027	3	
weth Creek	Wasco	065	3	
e Dalles	Wasco	065	3	The Dalles
d St.	Wasco	065	3	The Dalles
ry Grade	Wasco	065	3	The Dalles
alles Bridge	Wasco	065	3	The Dalles
	Sherman	055	3	
	Sherman	055	3	
ton	Gilliam	021	4	
an	Morrow	049	5	
ston	Umatilla	059	5	
art	Umatilla	059	5	
dleton	Umatilla	059	5	Pendleton
nt Ave.	Umatilla	059	5	Pendleton
dleton	Umatilla	059	5	
rande	Union	061	6	LaGrande
a Lake	Union	061	6	LaGrande
Jct.	Union	061	6	
der	Union	061	6	
11 St.	Baker	001	7	Baker
er	Baker	001	7	
ario	Malheur	045	8	Ontario

ements:

earinghouse and District 2 & 14 Clearinghouses - - exempt
-95 review under working agreements dated April 28, 1970,
r 16, 1970 and August 11, 1970, respectively.

(b) District 9, 12 & 13 Clearinghouses - - - Waiver of A-95 reviews being requested under program submittal letter based on the fact the work is solely installation of signs along the roadway.

FHPM 7-7-2 Requirements: Nonmajor action project.

FHPM 7-7-5 Requirements:

(a) Public Hearings: None required under provisions of paragraph 6c.

(b) Design Approval: Considered given by FHWA when the national standards (National Standards and Criteria for Official Highway Signs within Interstate Rights-of-Way Giving Specific Service Information for the Traveling Public) were issued January 17, 1969, as Part 22, Chapter I of Title 23, Code of Federal Regulations. FHWA concurred by memorandum dated February 15, 1972.

Note: (1) This project is in Congressional District No. 2.
(2) On-the-job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at FS & E stage and the number stipulated in the PS & E documents.

Data for PR-37:

Baker Co. - - - - - - - - - - - - - - -	Est. Cost	$ 29,500
Gilliam Co. - - - - - - - - - - - - - -	Est. Cost	22,100
Hood River Co.- - - - - - - - - - - - -	Est. Cost	81,100
Malheur Co. - - - - - - - - - - - - - -	Est. Cost	7,400
Morrow Co.- - - - - - - - - - - - - - -	Est. Cost	22,100
Sherman Co. - - - - - - - - - - - - - -	Est. Cost	29,500
Umatilla Co.- - - - - - - - - - - - - -	Est. Cost	99,500
Union Co. - - - - - - - - - - - - - - -	Est. Cost	66,400
Wasco Co. - - - - - - - - - - - - - - -	Est. Cost	77,400
	Total Est. Cost	$435,000

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Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: May 5, 1975

In reply refer to: 1041DA.1/5206 1

SUBJECT: LOGO Signs

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Based on the information contained in Mr. Coulter's April 29, 1975 letter indicating that all of the 261 locations originally submitted will be installed in approximately 1 year after being let to contract, your original proposal of April 11, 1975 is approved.

for G. L. Green

RECEIVED
MAY 8 1975
Office of
Assistant State Highway Engineer

RECEIVED
STATE HWY ENGR
MAY 7'75
REFER TO
Coulter
FOR
Info | Inves | R/D | D/R | Sign | Act | File

5-8-75
cy Hunter
Schroeder
Granger
Verstieg
Sallis
Beckman
Calcaterra

NOTED
H.S. COULTER

NOTED
J. L. JOHNSON

CON 18-5

Robert W. Straub
XXXXXXXXX

DATE April 29, 1975

TO Glen L. Green, Division Engineer
Federal Highway Administration

FROM H. S. Coulter
Assistant State Highway Engineer

SUBJECT LOGO Signs
Your File 1041DA.1/520.61

Your letter of April 22 outlined a suggested method of determining the number of footings, sign supports and sign panels that might be stockpiled over and above those that have actually been sold.

This method is agreeable to this office; however, we have determined that the 261 locations originally submitted to you for preliminary approval and which are being included in the contracts currently under preparation were in fact based upon probable sales. This was not known at the time of transmission of my April 11 letter. Out of the 261 locations, 82 have been sold during the first months of 1975. In fact, several locations were sold which were not in the original 261 locations. On the basis of the sales during the first three months of the year, it was our best estimate that the remaining 179 locations will very likely be sold during the 12-month period after the projects are let to contract. Because of this we would like to request reconsideration of your proposed method of determining additional locations in stockpile materials.

Based on the above data, it is requested that the remaining 179 locations be approved for inclusion in the projects currently under way in our Design Section.

LEG:pb ia

bc F. B. Klaboe
A. E. Johnson
E. S. Hunter
R. L. Schroeder
L. E. George
Jack Sollis
E. E. Beckman
Patty Calcaterra
J. H. Versteeg

Form FHWA 121 (Rev. 8-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: April 22, 1975

In reply refer to: 1041DA.1/520.61

SUBJECT: LOGO Signs

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. Coulter's April 11, 1975 letter indicates that contract documents are presently being prepared for an early bid opening for LOGO installations at approximately 100 locations on I-5 and I-80N where firm commitments from businesses have been obtained or expected to be obtained prior to the contract being let. He further indicates that approximately 150 additional footings will be installed as part of the project at locations where commitments have not been obtained but are expected sometime in the future. Also, approval as part of the contract to maintain a stockpile of additional sign supports and panel material to be installed by State forces as the need arises was requested.

As discussed with Mr. George on April 21, 1975, we would have no objections to participating in the stockpiling of those sign supports and panel material and the construction of those additional footings which would likely become necessary within 1 years time of awarding the proposed contract. The number of such additional footings and sign supports to be stockpiled would be based on a study of both present and past sales volumes and a study of the effect your recent request to combine LOGO signs on one panel would have on the total number of signs to be included in the initial contract.

RECEIVED
STATE HWY ENGR
APR 23 '75
REFER TO
FOR
Info | Inves | R/D | D/R | Sgd | Act | File

G. L. Green

STATE
L. L. JOHNSON

RECEIVED
APR 24 1975
Office of
State Highway Engineer

CON 18-5

ert W. Straub
XXXXXXXXX

DATE April 11, 1975

TO Glen L. Green, Division Engineer
Federal Highway Administration

FROM H. S. Coulter
Assistant State Highway Engineer

SUBJECT LOGO Signing

The Highway Division is currently preparing documents for an early bid opening for LOGO installations on I-5 and I-80N that were recently given tentative approval by your office. Some 250 locations are involved--out of these, approximately 75 locations currently have firm commitments from businesses for purchasing LOGOS. By the time the project is let to contract, it is expected that another 25 commitments will be made for a total of 100 locations at which LOGOS will be installed as part of the contract. The remaining 150 locations will have footings installed as a part of the project. It was our original intent to stockpile the supports and sign panels for these 150 locations such that an immediate response would be possible upon space sale by the Travel Information Council.

Since such a large number of locations will remain without needed sign installations, an alternate plan seems appropriate. It is our opinion that a reasonable stockpile of supports and sign panel material (based on expected sales in the near future) should be stockpiled as a part of this contract. It is further suggested that the stockpile inventory could be maintained at a reasonable level based on LOGO sales and that, if needed, State Forces could respond to necessary sign installations using the stockpile material. Reimbursement from the FHWA would then be requested on a piecemeal basis as the future sign installations were made.

The request for Federal participation in this State Force work would seem to be justified since the LOGO signs are of an entirely different nature than the sign installations usually made on the Interstate system. Your approval is requested for the proposal outlined above.

LEG:pb ia

bc F. B. Klaboe
A. E. Johnson
R. L. Schroeder
L. E. George
Jack Sollis
J. H. Versteeg
E. E. Beckman
Patty Calcaterra

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OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

April 1, 1975

FILE:

FROM: A. D. Olson
Preliminary Design Engineer

SUBJECT: Logo Signs

TO: MEMORANDUM TO THE FILES

NOTED
E. S. HUNTER

Logo signs for I-5 and I-80N are being designed at this time. A meeting was attended March 26 with E. E. Beckman, Elmer Scofield and Patty Calcaterra to review the type and size of signs to be provided at each interchange and where logos have been sold.

A review of the appropriate Highway Program Manual (Vol. 6, Chapter 8, Section 3, Subsection 8, Transmittal 38, dated July 2, 1974) was made and design criteria checked with Bud George and Ernie Valach. I have been advised that the interchanges to be signed have been approved, that the 1,000 foot spacing between signs is approximate and that breakaway posts will be used as a standard procedure.

The Program Manual states that the panels shall be located near to the right of way line and readable from the main traveled way. They shall be located longitudinally to take advantage of the natural terrain and have the least impact on the scenic environment.

The Manual on Uniform Traffic Control Devices states that a minimum height of 7 feet above the edge of pavement to the bottom of sign shall be used unless the signs are positioned away from the pavement edge to increase roadway safety. In that case a height of 5 feet may be used.

Taking into account the above, studies by other states on night visibility of signs offset from the roadway, effect of splash on signs close to the highway and savings by reducing sign heights brought about the following design criteria for design of the logo signs.

Signs in cut sections will be located so that the near post will be 5 feet above the edge of running lane, signs back of guard rail will be 4 feet from the face of guard rail to the edge of the sign with 6 feet to be used if the guard rail has not been set back the desirable 2 feet from edge of shoulder. In open areas the far edge of the sign will be at least one foot inside of the right of way or the near post will be 50 feet from the edge of running lane, whichever is closer. The normal height of the bottom of the sign above the edge of running lane will be 5-1/2 feet where it is behind guard rail (to allow for future overlays) and 5 feet where greater than 30 feet from the edge of shoulder. A minimum of 7-1/2 feet will be used if it is necessary to install a sign closer than 30 feet from the edge of shoulder where guard rail does not exist.

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APR 2 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

Signs will be designed for all positions indicated on the data received from Elmer Scofield and footings will be constructed. Signs will be erected where logos have been sold. A determination will be made prior to contracting in regard to whether materials for the remainder of the signs will be stockpiled, provided under subsequent contracts or obtained in some other manner.

Attached is a list of the interchanges involved in the current contract along with the size, type and status (sold?) of the proposed signs.

Unless advised to the contrary the above criteria and data will be used to prepare plans.

ADO:jh
Attachment
cc: E. S. Hunter
L. E. George
E. J. Valach
E. E. Beckman
Patty Calcaterra
Bill Beard

LEGEND:

S: SMALL LOGO BOARD G: GAS F: FOOD L: LODGING C: CAMPING
L: LARGE LOGO BOARD X: INDICATES THAT LOGOS ARE SOLD IN THAT CATEGORY.

THE FOLLOWING TABULATION RECORDS THE INTERCHANGES AND THE PROPOSED BOARD SIZE.

INTERCHANGE AND M.P. #:	NORTHBOUND				SOUTHBOUND			
	G:	F:	L:	C:	G:	F:	L:	C:
SOUTH ASHLAND #11	LX	LX	L	S	-	-	-	-
GREEN SPRINGS #14				S				S
NORTH ASHLAND #19							LX	S
VALLEY VIEW RD.#21	S	S			S			
FERN VALLEY RD.#24	LX	SX	S		LX	SX	S	
BARNETT RD. #27				S				S
CRATER LAKE #30				S	LX	LX	LX	S
CENTRAL POINT #32			L	S			L	S
KANE CREEK (GOLD HILL) #40	S	S		LX	S	S	S	LX
ROCK POINT #43		S	L			S	L	
HOMESTEAD #45A	SX	S	S					
ROGUE RIVER #48	LX	L	L	L	LX	L	L	L
EAST GRANTS PASS #55	LX	LX	L	L	LX	LX	L	L
NORTH GRANTS PASS #58				L	LX	LX	LX	L
MERLIN (LOUSE CREEK) #61	S			SX	S			SX
SUNNY VALLEY #71				S				S
WOLF CREEK #76		S	S			S	S	
SOUTH CANYONVILLE #98			SX		L			
NORTH CANYONVILLE #99							S	
MYRTLE CREEK #108	L	L	S		L		S	
GARDEN VALLEY RD. #125								S
SUTHERLIN #136	LX	L	L					S
RICE HILL#148			S			L	S	
PONCALLA #150			S				S	

INTERCHANGE AND M.P. #:	NORTHBOUND G:	F:	L:	C:	SOUTHBOUND G:	F:	L:	C
COTTAGE GROVE #174				S		LX	L	S
CRESWELL #182				SX				S
MCVAY #189	LX	S			LX	S	S	
GLENWOOD #191	S	SX	S		S	SX	S	
"Q" STREET #194	LX	LX	LX		LX	LX		
BELTLINE RD. #195	LX	L						
COBURG RD. 199		S	S			S	SX	
DIAMOND HILL #209				S				S
SANTIAM #233					L	LX		
NORTH ALBANY #234						LX		
NORTH SANTIAM #253	S			S	S	SX	S	S
MARKET STREET #256	LX	LX	LX		LX	LX	LX	
HAYESVILLE #258	L	L						
WOODBURN #271			S				S	
NORTH TIGARD #294					LX	L	S	

80-N:	EASTBOUND:				WESTBOUND:			
CASCADE LOCKS #44	L	L	L	SX	L	L	L	SX
WEST HOOD RIVER #62	S	L	L	S	S	L	LX	S
2ND STREET #63	L	LX	L					
EAST HOOD RIVER #64					SX	S	S	
CHENOWITH CREEK #82	S	S						
WEST THE DALLES #83	L	LX	L					
WEST 2ND STREET #84					L	L	L	
BREWERY GRADE #85	L	LX	L		L	LX	L	
THE DALLES BRIDGE #87	LX	L	S		LX	L	S	S
BIGGS #104	LX	L			LX	L		
RUFUS #109		S	S			S	S	

INTERCHANGE AND M.P.# :	EASTBOUND G:	F:	L:	C:		WESTBOUND G:	F:	L:	C
ARLINGTON #137		S	S	S			S	S	S
BOARDMAN #164		L	L	S			L	L	S
HERMISTON #182	SX			SX		SX			S
BARNHART #202	S	SX	S			S	SX	S	
WEST PENDLETON #207	L	L	L			L	L	L	
EMIGRANT AVE. #209	LX	LX	L			L	LX	L	
SOUTH PENDLETON #210	L	L	L				L	L	
WEST LA GRANDE #259	SX	SX	SX						
WALLOWA LAKE #261	L	L	L			L	L	L	
UNION JCT. #265						S	S	S	
NORTH POWDER #285	S	S	S			S	S	S	
CAMPBELL STREET #304	L	L				L	L	L	
SOUTH BAKER #306						L	L	L	
NORTH ONTARIO #374	L	L							

TOTALS:

GAS, L: 45 (24 ~~23~~ - SOLD) ~~21~~

GAS, S: 23/68 (4 ~~5~~ SOLD) ~~5~~ 28

F,L,C :L 93 (28 ~~27~~ 26 - SOLD) ~~27~~

F,L,C :S ~~100~~ ~~99~~ (19 ~~16~~ SOLD) ~~26~~

~~192~~ ~~47~~

193 46

74 ~~75~~ sold

187 ~~186~~ not sold

261 Total

8352

R

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE:

Salem, Oregon

March 26, 1975

ORIGINAL SIGNED BY
J. H. VERSTEEG

FROM: J. H. Versteeg
Road Design Engineer

SUBJECT: Logo Sign Contract
I-5 and I-80N

TO: MEMORANDUM TO THE FILES

We have been instructed to work up contract plans for logo signing on I-5 and I-80N. A crew under A. D. Olson's direction is working up the field data to determine physical sign requirements at the proposed locations.

Scott Coulter advises that either Bud George or Lyle Beckman will coordinate projects and advise us which signs will go up and which are to be stock-piled, etc.

In discussing this project briefly with E. J. Valach of the FHWA, he was advised that Bud George would handle discussions concerning stage construction and FHWA participation in funding. Mr. Valach did say that the new logo signs should be placed according to the new regulations. The existing logo signs will be relocated at some future date to conform to the new criteria.

JHV:jh
cc: Scott Coulter
C. T. Keasey
L. E. George
Lyle Beckman
J. B. Boyd
A. D. Olson

NOTED
H.S. COULTER

RECEIVED
MAR 27 1975
Office of
Assistant State Highway Engineer

8358

R

SUGGESTED REPLY FOR MR. BALDWIN'S SIGNATURE
March 6, 1975

Mr. Ronald M. Somers
Attorney At Law
106 E. Fourth Street
The Dalles, Oregon 97058

Dear Mr. Somers:

We appreciate your concern as to the information being transmitted by ~~our~~ the Director of the Travel Information Council. You, of course, were aware that this was a misstatement and was unintentional. We believe that as a general rule statements like this when brought to our attention will be rectified by a letter correcting the statement. We will ~~bring this to Miss Calcaterra's attention~~ make Miss Calcaterra aware of this and I'm sure that she is appreciative of you bringing this to our attention.

JBB:jk

882-K

(do not remove)

Orig file to Baldwin 3-10-75

NOTED
F. B. KLABOE

RONALD M. SOMERS
ATTORNEY AT LAW
106 E. FOURTH STREET
THE DALLES, OREGON
97058

P. O. BOX 616
PHONE 296-2161

JOHN E. UFFELMAN
ASSOCIATE

February 24, 1975

Mr. George M. Baldwin
Oregon State Highway Department
Salem, Oregon 97310

Mr. Alfred A. Hampson
Chairman
Oregon State Highway Department
Salem, Oregon 97310

Mr. Jack Sollis
Department of Transportation
Oregon State Highway Department
Salem, Oregon 97310

RECEIVED
STATE HWY ENGR
FEB 25 '75
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

#883
due 3-7
reply for 6 mo B

RE: Billboards Along Interstates 5 and 80N

Gentlemen:

Enclosed herein you will find a photocopy of a letter sent out January 3, 1975, to The Dalles Chamber of Commerce which was called to my attention. You will note the first sentence of the letter indicates that the State of Oregon is removing all billboards along Interstates 5 and 80N. This letter was not only sent out to The Dalles Chamber of Commerce, but I understand to other individuals also.

I would anticipate a prompt reply from Mr. Baldwin and Mr. Sollis as to when and where the funding is coming from for this project, and if I should notify the owners of billboards that they are subject to immediate condemnation proceedings.

I would assume the letter should of said, as you will note in my penciled notations, that the State of Oregon has agreed to remove all billboards save and except those in commercial and industrial areas along Interstates 5 and 80N. There is a gross mistatement, I believe, which should be corrected, or I should anticipate hearing immediately from Mr. Jackson and Mr.

Klaboe as to when and where the Highway Department received the funds and authority to remove signboards in industrial and commercial zones.

Thank you for your prompt response.

Very truly yours,

Ronald M. Somers

RMS:jj
Enclosure

cc: Mr. Glen Jackson
Chairman, Oregon State Highway Commission
Pacific Power and Light
920 S. W. Sixth Avenue
Portland, Oregon 97204

cc: Mr. Fred Klaboe
Administrator, Oregon State Highway Department
Department of Transportation
Salem, Oregon 97310

RECEIVED DEC 1 4 1975

TRAVEL INFORMATION COUNCIL

~~BROADWAY AT WASHINGTON~~
~~310 MORGAN BUILDING • PORTLAND, OREGON • 97205 • Phone (503) 229-1934~~
2960 E. State Street - Room 208 - Salem, OR 97310 - Phone (503) 378-2636

TOM McCALL
GOVERNOR

COUNCIL MEMBERS:
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MRS. ROBERTA J. FULTON
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MISS ELIZABETH C. BUCEY
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GEORGE M. BALDWIN
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GARY COKER
ANN HUNT
DAVID POVEY
WILLIAM HEALY
ALEX MURPHY
N. P. SKAROPOULOS

STAFF
JACK SCHLEE
Assistant Attorney General and Counsel
PATTY CALCATERRA
Director

January 3, 1975

Entertainment Chairman
The Dalles Chamber of Commerce
PO Box 460
The Dalles, OR 97058

should read except in ~~in~~ downtown + industrial areas

Dear Entertainment Chairman:

The State of Oregon has agreed to remove all billboards along Interstates 5 and 80N. As an alternative means to advise motorists and give directions to the nearest facilities at each interchange the state has instituted the logo signing and information center programs. If you should have available time in the future at one of your meetings, a representative from the Travel Information Council would be more than happy to give a slide presentation on the new signs and explain about the Information Centers.

Oregon is one of the first states to try this program and we feel it is very important to keep the public informed. We would like to hear comments from the members of your organization and any suggestions they may have about the new programs. We would be happy to talk with you on this if you can give us a call at the above number at your convenience. Thank you very much.

Very truly yours,
TRAVEL INFORMATION COUNCIL

Patty Calcaterra

Patty Calcaterra,
Director

PC/dp

2252

R

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

February 28, 1975

Ronald M. Somers, Esq.
Attorney at Law
106 E. Fourth Street
The Dalles, Oregon 97058

Re: Billboards Along Interstate I-5 and I-80N

Dear Mr. Somers:

In reply to your letter of February 24, 1975, addressed to Mr. George M. Baldwin, Mr. Alfred A. Hampson and myself, I have the following to offer.

The letter sent out by the Travel Information Council Director on January 3, 1975, was in error and should have included a phrase "except in commercial and industrial areas."

Corrective letters are being sent out to all people who received the original letter and I have been assured that this was an oversight in the preparation of the letter.

Outdoor advertising signs are still allowed in commercial and industrial zones and none will be removed from commercial and industrial zones.

Sincerely,

ORIGINAL SIGNED BY
JACK L. SOLLIS

Jack L. Sollis
Assistant Attorney General

ljh

cc: Glenn L. Jackson
George M. Baldwin
Fred Klaboe
Alfred A. Hampson

NOTED
R. L. SCHROEDER

RECEIVED
STATE HWY ENGR
MAR 3'75
REFER TO
FOR
Info | Inves | R/D | D ? | Sign | A-1 |

RECEIVED
MAR 10 1975

TRAVEL INFORMATION COUNCIL

1018 PUBLIC SERVICE BLDG. • PORTLAND, OREGON • 97204 • Phone (503) 226-6641

ROBERT W. STRAUB
GOVERNOR

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WILLIAM HEALY
MRS. ANN HUNT
ALEX MURPHY
DAVID POVEY
N. P. STAROPOLI

STAFF:
JACK SOLLIS
Assistant Attorney General
and Counsel
PATTY CALCATERRA
Director

February 28, 1975

Mr. Ronald M. Somers
106 E. Fourth Street
The Dalles, Oregon 97058

NOTED
L. L. JONES

Dear Mr. Somers:

In response to your letter of February 24 I am very sorry that a letter was written by Patty Calcaterra that contained the misstatement which you pointed out. I have asked Mr. Sollis to take steps to have it corrected and a correcting letter be sent not only to the Entertainment Chairman of the Chamber of Commerce but also to everyone else who received such a letter.

Again let me apologize to you and let me advise you that we will be as careful as we can to see that such a misstatement is not again made. I am sending a copy of this letter to each person to whom you directed your letter.

Very truly yours,

Alfred A. Hampson

AAH:me

cc: George M. Baldwin
Jack L. Sollis
Glen Jackson
Fred Klaboe

NOTED
F. B. KLABOE

RECEIVED
STATE HWY ENGR
MAR 3'75
REFER TO
GEJ
FOR
Info | Inves | R/D | D/R | Sig | Ar

6252

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FORM S.80

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem

DATE January 2, 1975

TO R. N. Bothman
Metropolitan Engineer

FROM C. T. Keasey
Construction Engineer

SUBJECT Motorist Information Signing
Interstate Routes I-5 and I-80N
Statewide

Attached is a letter and data from L. E. George regarding the field survey work needed for development of a contract to install LOGO sign footings throughout the State on Interstate routes where that signing is currently nonexistent or in need of modification.

As we discussed by phone, please organize two three-man survey crews to accomplish this task as soon as possible.

These two crews are to obtain the needed cross-sections and information for the entire highway route to which they are assigned, from Portland to the Oregon-Idaho State Line on I-80N and from the Columbia River to the California border on I-5.

Short-term per diem is authorized as required for the duration of this project.

CTK:ia

Att.

cc H. S. Coulter
E. S. Hunter
V. D. Wolfe
L. E. George
Regional Engineers

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon 97310

DATE December 24, 1974

TO C. T. Keasey
Construction Engineer

FROM L. E. George
Traffic Engineer

SUBJECT Motorist Information Signing
Interstate Routes 5 & 80N
Statewide

As you are aware, the Federal Government may recall for redistribution all outstanding, unused obligational authority as early as March, 1975. To obligate part of these funds, it is our desire to work up a project to contract the footings and supports for Motorist Information Signs at locations where there is a high potential for future LOGO panel sales. To accomplish this task in the short time available, we are asking your assistance in obtaining the necessary field work that will be required.

This summer, we received a transmittal from the Federal Highway Administration that set up guidelines for future Motorist Information Sign installations. The new guidelines call for the sign to be installed near the right of way line and are increased in size to be readable from the traveled way. The lineal locations have been revised to start at the gore point rather than the advance guide sign. The sequence of signs is the same as before, except that a new "CAMPING" sign has been added to the series.

The last panel shall be located no closer than 1/2 mile from the theoretical gore point approaching the interchange with at least 1000 foot spacing between the information panels. These spacings will have to be adjusted in many areas to obtain visibility due to trees and other roadside objects. The terrain will affect the locations of the signs because signs cannot be located near the right of way line in areas of steep cuts or fills.

Attached is a tabulation of possible sign locations under the new Federal regulations useing the information that was available to the Traffic Section. No attempt was made to adjust the spacings due to the reasons outlined in the preceding paragraph. A sketch showing the installation spacing is included with the inventory listing.

The red shading indicates interchanges where no LOGO sales potential exists, so no work will be required. The yellow shading indicates locations where existing signs are in place. The green shading indicates the motorist service panels that we desire to install the footings and fabricate the sign posts under this project.

The attached correspondence indicates the sequence of events that have occurred between the Highway Division and the Federal Highway Administration. The Division Office of the FHWA has been advised that we will install information panels at their ultimate locations. Therefore, when additional services are available and LOGO's sold, space will be available for their installation. Also, all existing signs can be moved to their ultimate location when the need arises on a maintenance basis. In the isolated cases where the existing information panels conflict with the installation of proposed signs, the existing signs will be removed and be replaced by a new enlarged sign at the ultimate location.

We would be very appreciative if your survey crews could locate the signs for us as outlined in this letter and the attachments. We will require the interchange name, approximate milepost and station, and a cross-section of sufficient accuracy to design the steel sign supports. On the cross-section should be noted if guardrail exists at that location. An arrow should be painted on the shoulder at the selected location so future crews can locate the proposed location. A photo of the area would be useful to our design engineer.

Employees of the Traffic Section will be available to answer your questions and to give further instructions if required.

ELS:pb

Attachment

Buz Swan will supply prefixes for prelim. engineering.

OREGON STATE HIGHWAY DIVISION

File: TRA 7

HIGHWAY BUILDING • SALEM, OREGON • 97310

TOM McCALL
GOVERNOR

F. B. KLABOE
Administrator of Highways

November 20, 1974

TO Glen L. Green, Division Engineer
Federal Highway Administration

FROM For H. S. Coulter
Assistant State Highway Engineer

SUBJECT Oregon Logo Signing
Your File 1041DA/520.61

In a letter dated November 11 from your office signed by E. J. Valach, concurrence was given that the installations which meet the national standards for LOGO signs would be appropriate in accordance with the inventory submitted to your office on October 11.

Tentative approval was requested initially on those locations listed on the inventory in order that the Travel Information Council's personnel might conduct selling operations in the field for those locations at which LOGO panels are not currently installed. Subject to meeting national standards for spacing requirements, we will assume that TIC can proceed with their sales effort, operating on the assumption that LOGO sign installations will be approved if they can be installed properly.

My original letter of October 11 also proposed a method of installing new LOGO signs at locations that already had a partial installation. The suggestion contained in your letter is agreeable to the Highway Division and will be followed in making new sign installations in combination with existing units. Tentative approval is also requested for the concept of making scattered LOGO sign installations via State forces. It is expected that many of the new LOGO installations will be so scattered geographically that it will not be feasible to contract these units. Would you please advise us.

bc F. B. Klaboe
A. E. Johnson
R. L. Schroeder
L. E. George
Jack Sollis
E. E. Beckman

RECEIVED
NOV 21 1974
TRAFFIC ENGINEERING

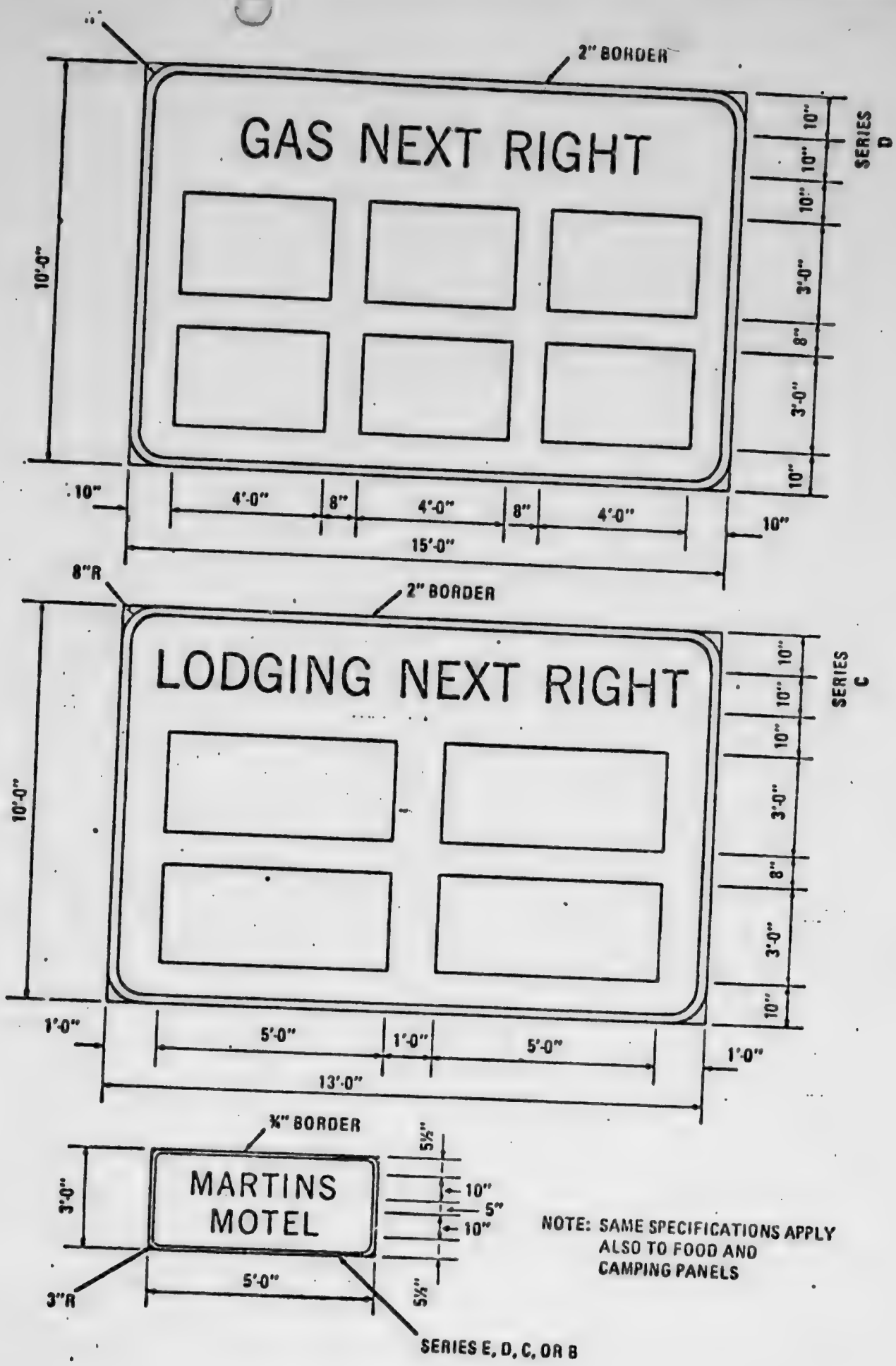
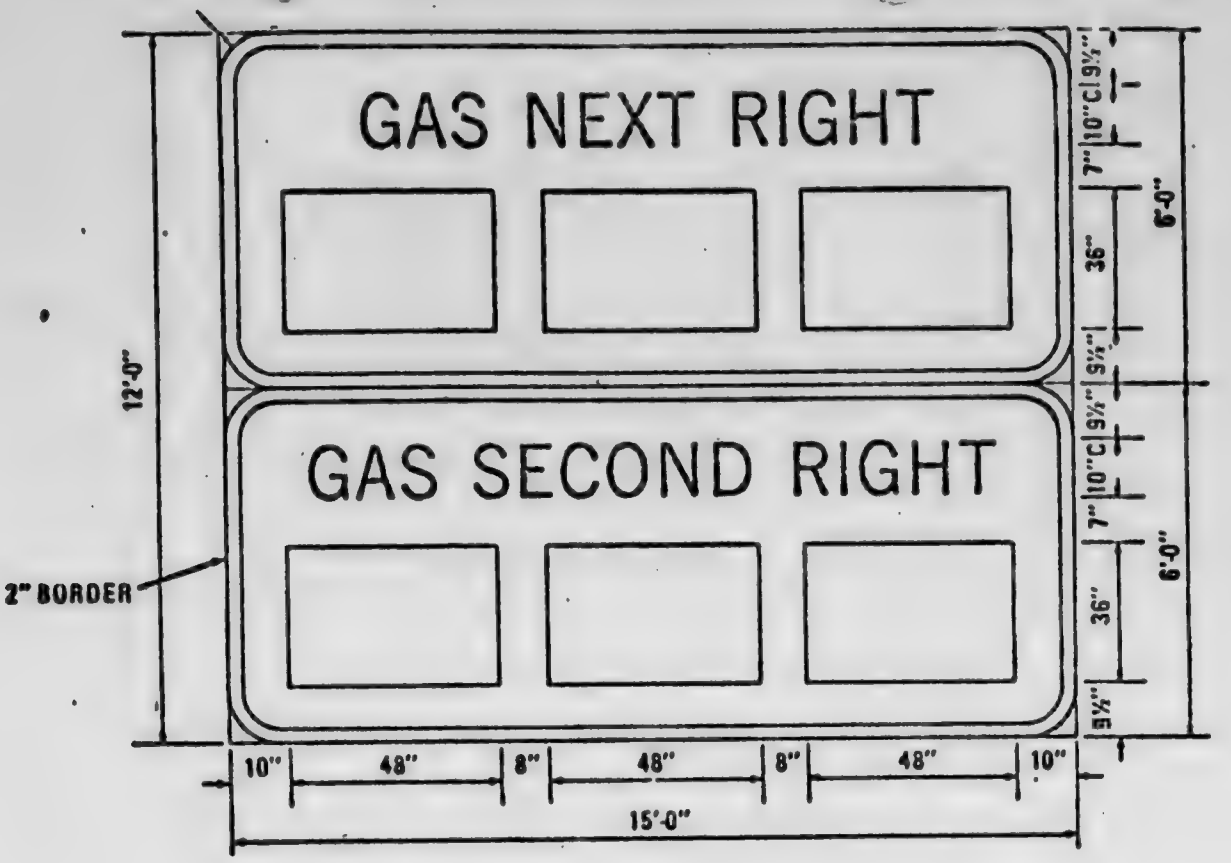


FIGURE 8-2 • SPECIFIC INFORMATION PANEL FOR SINGLE EXIT INTERCHANGE



NOTE: SAME SPECIFICATIONS APPLY
ALSO TO FOOD AND CAMPING PANELS

FIGURE 8-4 • SPECIFIC INFORMATION PANEL FOR DOUBLE EXIT INTERCHANGE

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

RECEIVED
STATE HWY ENGR
NOV 12 '74
REFER TO
Coulter
FOR
Info | Invest | R/D | D/R | Sign | Act | File

cy ael

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: November 11, 1974

In reply refer to: 1041DA/520.61

SUBJECT: Oregon Logo Signing

FROM : G. L. Green, Division Engineer

NOTED
H. S. COULTER

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. Coulter's October 11, 1974 letter requested:

1. FHWA concurrence in future installations of logo sign panels in accordance with the inventory included with his October 11, 1974 letter.

2. FHWA concurrence in a described procedure for handling situations for new logo signs where some logo signing under the old logo standards are in place. The request includes concurrence in FAI funding of revisions to existing logo signs under certain conditions.

In response to the first request, we concur that those installations which meet the national standards will be approved. Until experience is gained in the actual application of the new standards, we would prefer to retain a preliminary review of new signing proposals. We would be prepared to organize our activities to assure no unnecessary delay in the orderly advancement of such proposals.

Your second request reflects a desirable goal to minimize the complete replacement of recent logo sign installations under the original standards. As an alternative to your suggested procedures, a procedure could be followed that for any new logo installation where some old signs now exist the first attempt would be to install the new sign to the new standards in size and transverse location within the right of way and in the ultimate location longitudinally. In establishing the longitudinal location space would be provided for ultimate location of replacements for the existing old standard logos. Such a procedure could result in an interim change in the sequence by which information is presented, ie. "Camping" could follow "Gas" in direction of travel. No adverse operational problems are apparent from such a change in sequence. We would appreciate your evaluation of this alternative.

11-14-74
cy Jack Sollis

In further response to your letter, FAI funds can participate in the removal of the old standard logo signs with salvage credit where such removal specifically results from application of the new standards and the sign to be removed is to be replaced by a new standard sign.

for G. L. Green

cc:
Region (10ED.2)
OSHD (L E George)

2350

TRA 7 R

FORM E-90

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon 97310

DATE December 24, 1974

TO Larry Rulien
Project Management Engineer

FROM L. E. George
Traffic Engineer

SUBJECT Authority for Survey
I-80N Highway 2 and Highway 6
LOGO Signing

NOTED
E. S. HUNTER

Attached is the survey authorization for preliminary engineering work necessary to complete our LOGO signing on I-80N. This work will be done under a future contract.

Please proceed with necessary steps to obtain approval of preliminary engineering funds.

GE:rj

cc: E. S. Hunter
R. L. Schroeder
Victor Wolfe

RECEIVED
DEC 27 1974
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

8252

R

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: December 2, 1974

In reply refer to: 1041EC.2/520.61

SUBJECT: Oregon Logo Signing

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. H. S. Coulter, in a November 20 letter on the above subject, requested tentative approval of the concept of making scattered sign installations via State forces. We can, of course, approve the installations by State forces; however, each proposal in addition to meeting the program requirements for that type of project must contain sufficient justification to support a finding that construction by that method is in the public interest.

G. L. Green

cc:
OSHD (Keasey)

RECEIVED
DEC 4 1974
Office of
State Highway Engineer

12-4-74
by Denge Berryman
Bollis
Kubin
Wareing
Keasey

RECEIVED
STATE HWY ENGR
DEC 3'74
REFER TO
Coulter
FOR

NOTED
H.S. COULTER

2552

R

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

NOTED
H. S. COULTER

November 27, 1974

Scott Coulter
Assistant State Highway Engineer
State Highway Building
Salem, Oregon 97310

Re: Logo Program

Dear Mr. Coulter

It has become apparent within the last couple of weeks that the Logo program is going over very well and a great many applications are being received especially on I-5 for which there are no backboards. These applications are not being received as a result of the sales campaign put on by the PIC as they are primarily concerned with filling the existing boards but with applications that are coming in at the impetus of the owners.

Some examples are Shell Oil Company which has ordered 25, Exxon which has ordered 25, Texaco which has ordered 14, 6's Motels are going to apply for all of their motels on the freeway, Stuckey's Restaurants are going to apply for 6, Dairy Queen has taken 75 applications, I don't know how many of them they will utilize but they indicated they wanted 1 for every Dairy Queen Restaurant located on an interchange.

There are also individual applications being requested on a rather steady basis especially on I-5.

In addition to this I imagine that every campground on I-5 will want to get on the Logo boards by next summer.

This sort of shoots down in flames the program we had discussed earlier of filling the existing backboards and then going down I-5 in 3 units and maybe I-80N in 3 units for new contracts.

I would suggest that as soon as possible myself, Mr. George, Mr. Beckman and Patty Calcaterra meet with you to discuss this problem and how we should approach it.

RECEIVED
NOV 29 1974
Office of
Assistant State Highway Engineer

I suppose a meeting should not be held until after we have heard back from the Federal Highway Administration on your lastest letter which was sent over by Mr. Kesee (Keasey) in your absence.

It does appear that we will have a great many requests on I-5 all the way from Portland on down to the California border for which we do not have backboards.

Sincerely

Jack L. Sollis
Assistant Attorney General

kp
cc: L.E. George
E.E. Beckman
Patty Calcaterra

I think it appropriate to tabulate

1. Locations where logos can be added to existing backboards
2. Locations where new backboards can be easily installed we may already have FHWA approval, for instance
3. Locations where we believe we can get FHWA approval for installing backboards
4. Locations where installation of logos may be delayed or inappropriate because of;
   a. Anticipated delay in FHWA approval.
   b. Physical restrictions to backboard installation.
   c. Backboard installation and use of logos is not appropriate.

(An example of a. could be Market St. Xchange
b. could be Jantzen Xchange
c. could be Battle Cr. Xchange, Hoyesville Xchange)

I would also suggest that applicants should be advised of our ability to respond to each application and that we should try and obtain any needed field information fairly soon to avoid delay in working up any new contracts for new backboards for conditions 2. and 3. above. —

Scott

cc: Ellis George, Bob Beckman, Patty Calcaterra

8052

TRA 7-5

File No._____
Rd. No._____ M.P._____
City of_____
Streets_____
Rural_____ Urban_____

October 11, 1974

Mr. Glen L. Green
Division Engineer
Federal Highway Administration
P.O. Box 300
Salem, OR 97308

Dear Mr. Green:

Attached is an inventory of locations showing possible logo sign panel installations based upon the new standards issued by the Federal Highway Administration in July 1974. The possible installations are shown under the columns marked "G", "F", "L" and "C" and are based upon the revised spacing standards. The inventory is based upon the records maintained in the Traffic Engineering Section and has not been field checked for possible physical obstructions that would preclude the installation of the sign panels.

The purpose of this letter is to request your approval for the future installation of sign panels at the possible locations shown on the inventory, subject to the absence of physical obstructions that would preclude the installation of the panels. Business panels have not been solicited at many of the locations shown. However, advance approval of the locations will permit the installation of both the sign panels and the business panels in a rapid and orderly manner when necessary.

It is expected that a problem will be encountered on completed sections where logo signing has been installed based on the old standards. The Highway Division proposes to observe the following procedure in the installation of new logo signs on old sections.

1. If only one logo sign exists in any direction at an interchange, the existing logo sign would be removed and both the existing sign and any new ones to be installed would be installed based on the revised standards issued in July 1974.

2. If more than one logo sign panel exists in any direction at any interchange, the subsequent logo sign panels would be installed based on the old standards of spacing but not of size.

Your consideration and approval of the proposed procedure as outlined is requested. It is also requested that any revisions of existing logo sign revisions as outlined in No. 1 above be subject to normal federal-aid participation.

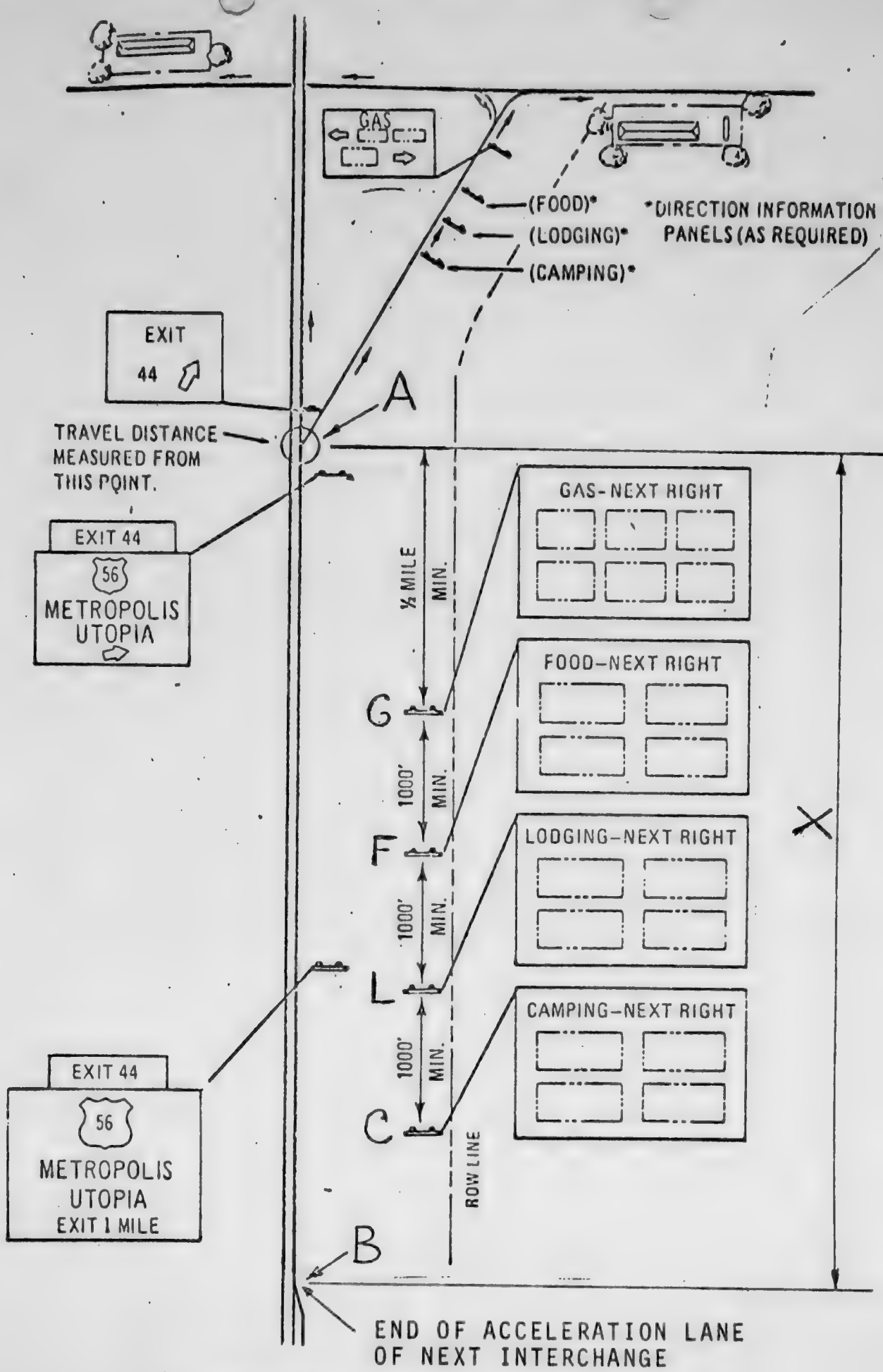
Very truly yours,

H. S. Coulter
Assistant State Highway Engineer

LEG:kw
Attachment

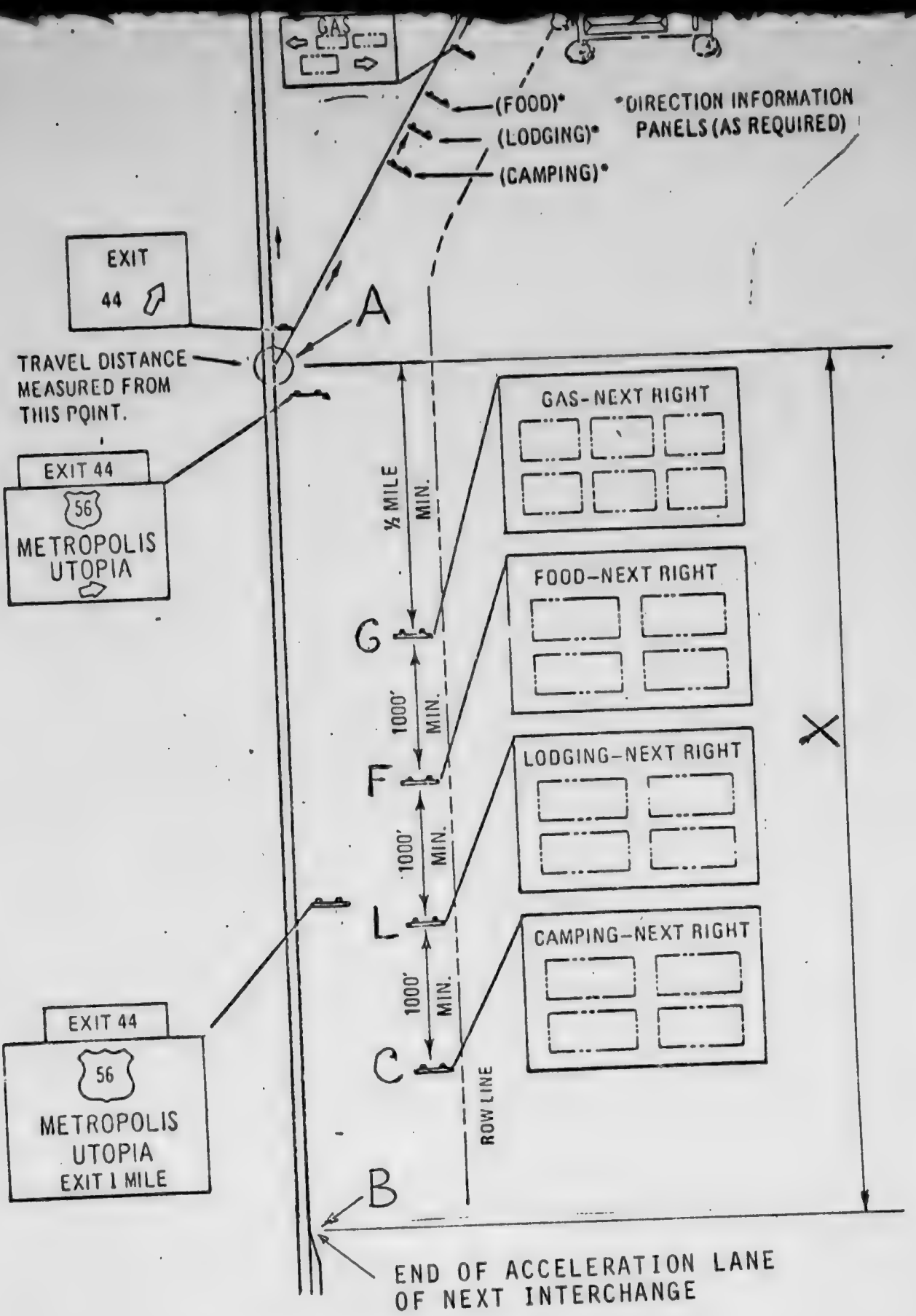
bc: F. B. Klaboe
A. E. Johnson
L. E. George
J. L. Sollis
Patty Calcaterra

GUIDE FOR LOGO SIGN TABULATIONS



EXPLANATION OF LETTERS & NOTES

A = Theoretical gore point of exit ramp.
B = End of acceleration lane of next interchange.
X = Total distance between interchanges for LOGO signs.
G = Location of "GAS" LOGO sign.
F = Location of "FOOD" LOGO sign.
L = Location of "LODGING" LOGO sign.
C = Location of "CAMPING" LOGO sign.
1/ = Location of contracted or existing LOGO sign.
2/ = No return ramp to freeway.
3/ = No exit ramp from freeway.
4/ = Interchange not to interstate standards.
5/ = Interchange under construction.
6/ = Interchange scheduled for re-construction.
N.S. = No space for LOGO signs.



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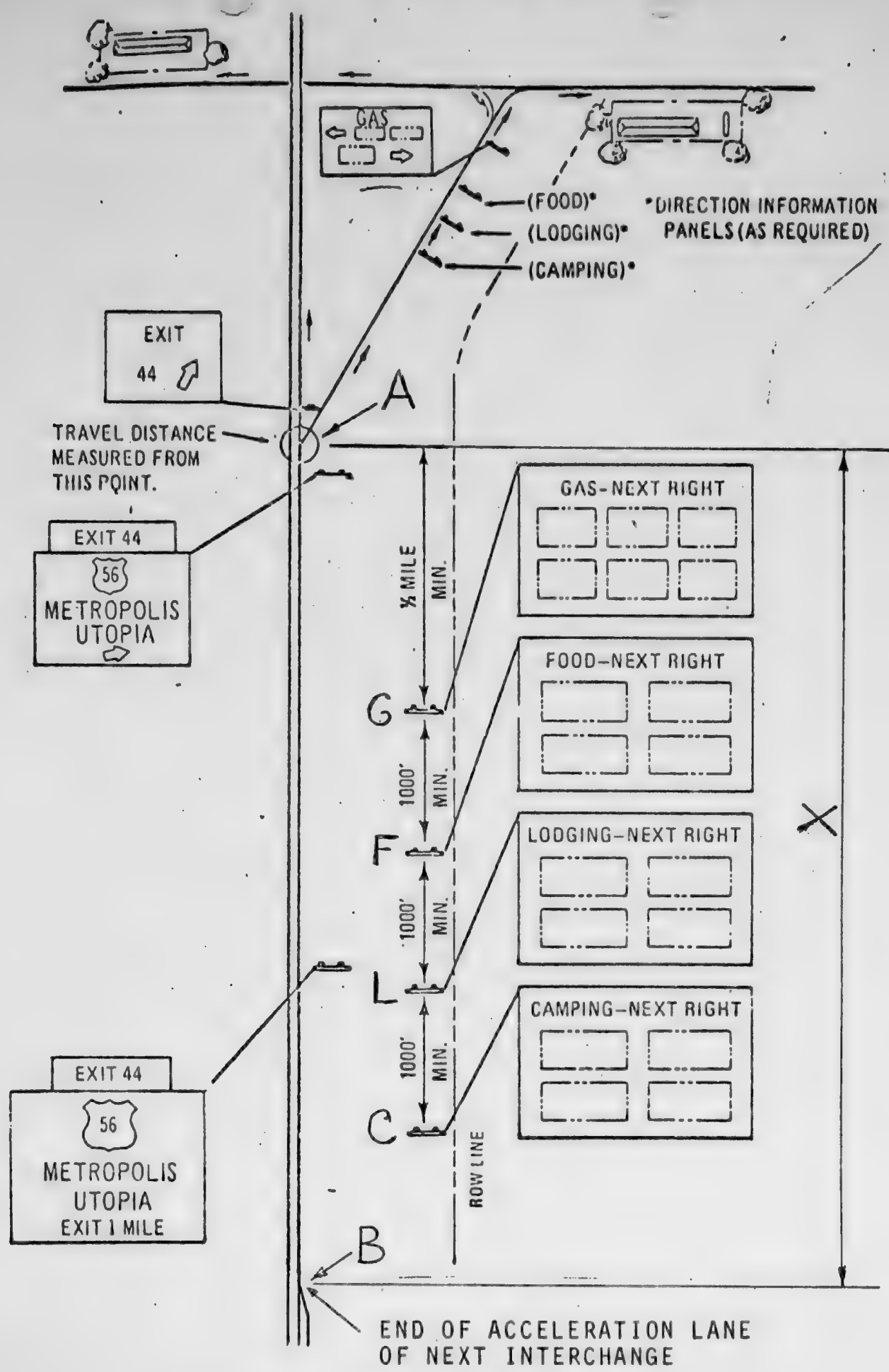
GUIDE FOR LOGO SIGN TABULATIONS



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INTERSTATE ROUTE 5
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

		NORTHBOUND							SOUTHBOUND				
INTCHGE. NAME	STRUCT. M.P.	A	B	X	G	F	L	C	A	B	X	G	F
Jumpoff Joe Creek	66.28	66.14	63.19	2.95	65.64	65.45	65.26	65.07	66.50	77.22	10.72	67.00	67
Sunny Valley	71.39	71.41	66.78	4.63	70.91	70.72	70.53	70.34	71.54	75.71	4.17	1/72.10 72.04	72
Wolf Creek (North & South)	76.03	75.84	71.69	4.15	1/74.57 75.34	75.15	74.96	74.77	76.72	78.11	1.39	1/77.98 77.22	77
Speaker Rd.	78.11	3/							2/				
Glendale	80.80	80.86	78.48	2.38	80.36	80.17	79.98	79.79	81.03	81.69	0.66	81.53	N
Barton Rd.	83.29	2/							3/				
Quines Creek Rd.	86.14	85.99	83.44	2.55	85.49	85.30	85.11	84.92	86.27	87.70	1.43	86.77	86
Azalea	88.12	87.99	86.48	1.51	87.49	87.30	87.11	86.92	88.25	95.47	7.22	88.75	88
West Fork	95.82	95.01	88.47	6.54	94.51	94.32	94.13	93.94	95.97	97.85	1.88	96.47	96
South Canyonville	98.28	98.15	96.21	1.94	1/97.12 97.65	1/96.97 97.46	97.27	97.08	98.67	99.17	0.50	99.17	N
North Canyonville 6/	99.53	98.87	98.62	0.25	N.S.	N.S.	N.S.	N.S.	99.71	101.03	1.32	1/100.78 T00.21	1/ 100
Yoncalla	101.33	4/							4/				
Gazley Rd.	101.89	4/							4/				
Riddle Rd.	103.95	103.73	102.23	1.50	1/102.30 103.24	1/102.14 T03.05	102.86	102.67	104.06	106.34	2.28	1/105.32 T04.56	1/ 104
Weaver Rd.	106.71	106.57	104.10	2.47	106.07	105.88	105.69	105.50	106.87	108.19	1.32	107.37	107
Myrtle Creek	108.31	108.04	107.08	0.96	107.54	107.35	107.16	N.S.	108.42	110.00	1.58	108.92	1/10 109
Boomer Hill	110.36	109.94	108.60	1.34	109.44	109.25	109.06	108.87	110.49	111.29	0.80	110.99	111
Dillard	112.53	112.18	110.69	1.49	111.68	111.49	111.30	110.85	112.45	113.10	0.65	112.95	N

INTERSTATE ROUTE 5
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

STRUCT. I.P.	NORTHBOUND							SOUTHBOUND						
	A	B	X	G	F	L	C	A	B	X	G	F	L	C
66.28	66.14	63.19	2.95	65.64	65.45	65.26	65.07	66.50	77.22	10.72	67.00	67.19	67.38	67.57
71.39	71.41	66.78	4.63	70.91	70.72	70.53	70.34	71.54	75.71	4.17	1/72.10 T72.04	72.23	72.42	72.61
76.03	75.84	71.69	4.15	1/74.57 T75.34	75.15	74.96	74.77	76.72	78.11	1.39	1/77.98 T77.22	77.41	77.60	77.79
78.11	3/							2/						
80.80	80.86	78.48	2.38	80.36	80.17	79.98	79.79	81.03	81.69	0.66	81.53	N.S.	N.S.	N.S.
83.29	2/							3/						
86.14	85.99	83.44	2.55	85.49	85.30	85.11	84.92	86.27	87.70	1.43	86.77	86.96	87.15	87.34
88.12	87.99	86.48	1.51	87.49	87.30	87.11	86.92	88.25	95.47	7.22	88.75	88.94	89.13	89.32
95.82	95.01	88.47	6.54	94.51	94.32	94.13	93.94	95.97	97.85	1.88	96.47	96.66	96.85	97.04
98.28	98.15	96.21	1.94	1/97.12 T97.65	1/96.97 T97.46	97.27	97.08	98.67	99.17	0.50	99.17	N.S.	N.S.	N.S.
99.53	98.87	98.62	0.25	N.S.	N.S.	N.S.	N.S.	99.71	101.03	1.32	1/100.78 T00.21	1/100.94 100.40	100.59	100.78
01.33	4/							4/						
01.89	4/							4/						
03.95	103.73	102.23	1.50	1/102.30 T03.24	1/102.14 T03.05	102.86	102.67	104.06	106.34	2.28	1/105.32 T04.56	1/105.47 104.75	104.94	105.13
06.71	106.57	104.10	2.47	106.07	105.88	105.69	105.50	106.87	108.19	1.32	107.37	107.56	107.75	107.94
08.31	108.04	107.08	0.96	107.54	107.35	107.16	N.S.	108.42	110.00	1.58	108.92	1/109.98 T09.11	109.30	109.49
10.36	109.94	108.60	1.34	109.44	109.25	109.06	108.87	110.49	111.29	0.80	110.99	111.18	N.S.	N.S.
12.53	112.18	110.69	1.49	111.68	111.49	111.30	110.85	112.45	113.10	0.65	112.95	N.S.	N.S.	N.S.

INTERSTATE ROUTE 5
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

		NORTHBOUND							SOUTHBOUND				
NTCHGE. NAME	STRUCT. M.P.	A	B	X	G	F	L	C	A	B	X	G	F
State Line	0.95	2/							3/				
Siskiyou Station	5.32	5.40	0.95	4.45	4.90	4.71	4.52	4.33	5.48	11.42	5.94	5.98	6.17
South Ashland	11.89	2/							3/				
Gr[illegible]n Springs	14.17	14.01	11.89	2.12	1/12.86 13.51	1/12.21 13.32	1/12.06 13.13	12.94	14.34	18.74	4.40	1/15.95 14.84	1/16.1 15.03
North Ashland	19.10	18.99	18.56	0.43	N.S.	N.S.	N.S.	N.S.	19.24	20.88	1.64	1/20.69 19.74	1/20.8 19.93
Valley View Rd.	21.20	20.96	19.55	1.41	20.46	20.27	20.08	19.89	21.37	21.92	0.55	21.92	N.S.
Fern Valley Rd.	24.40	24.19	21.34	2.85	23.69	23.50	23.31	23.12	24.60	27.20	2.60	25.10	25.29
Barnett Rd.	27.58	27.33	24.74	2.59	1/25.07 26.83	1/24.92 26.64	1/24.76 26.45	26.26	27.87	29.97	2.10	1/29.25 28.94	1/29.4 29.13
Crater Lake	30.29	30.12	27.94	2.18	1/28.78 29.62	1/28.63 29.43	1/28.48 29.24	29.05	30.46	32.41	1.95	30.96	31.15
Central Point	32.75	32.53	30.46	2.07	1/31.16 32.03	1/31.00 31.84	31.65	31.46	32.98	35.04	2.06	1/34.84 33.48	1/35.0 33.67
Seven Oaks	35.44	35.31	33.09	2.22	34.81	34.62	34.43	34.24	35.57	40.54	4.97	36.11	36.30
K[illegible] Creek	40.83	40.72	35.89	4.83	40.22	40.03	1/39.78 39.84	39.65	40.92	43.43	2.51	41.42	41.61
Rock Point	43.77	43.58	41.13	2.45	43.07	42.88	42.69	42.50	43.95	44.97	1.02	44.45	44.64
Homestead	45.47	45.17	44.13	1.04	44.67	44.48	44.29	N.S.	45.39	45.69	0.30	N.S.	N.S.
Rogue River	48.82	48.57	46.08	2.49	48.07	47.88	47.69	47.50	48.98	55.34	6.38	49.53	49.72
[illegible]st Grants Pass	55.78	55.50	49.15	6.35	55.00	54.81	54.62	54.43	56.24	57.68	1.44	56.74	56.93
North Grants Pass	58.06	57.99	55.97	2.02	1/56.61 57.49	1/56.45 57.30	1/56.30 57.11	56.92	58.29	60.90	2.61	58.79	58.98
[illegible]ue Creek	61.35	61.27	58.45	2.82	60.77	60.58	60.39	60.20	61.30	62.43	1.13	61.80	61.99

INTERSTATE ROUTE 5
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

	NORTHBOUND							SOUTHBOUND						
T.	A	B	X	G	F	L	C	A	B	X	G	F	L	C
	2/							3/						
	5.40	0.95	4.45	4.90	4.71	4.52	4.33	5.48	11.42	5.94	5.98	6.17	6.36	6.55
	2/							3/						
	14.01	11.89	2.12	1/12.86 13.51	1/12.21 13.32	1/12.06 13.13	12.94	14.34	18.74	4.40	1/15.95 14.84	1/16.11 15.03	1/16.26 15.22	15.41
	18.99	18.56	0.43	N.S.	N.S.	N.S.	N.S.	19.24	20.88	1.64	1/20.69 19.74	1/20.85 19.93	20.12	20.31
	20.96	19.55	1.41	20.46	20.27	20.08	19.89	21.37	21.92	0.55	21.92	N.S.	N.S.	N.S.
0	24.19	21.34	2.85	23.69	23.50	23.31	23.12	24.60	27.20	2.60	25.10	25.29	25.48	25.67
8	27.33	24.74	2.59	1/25.07 26.83	1/24.92 26.64	1/24.76 26.45	26.26	27.87	29.97	2.10	1/29.25 28.94	1/29.41 29.13	1/29.56 29.32	29.51
9	30.12	27.94	2.18	1/28.78 29.62	1/28.63 29.43	1/28.48 29.24	29.05	30.46	32.41	1.95	30.96	31.15	31.34	31.53
5	32.53	30.46	2.07	1/31.16 32.03	1/31.00 31.84	31.65	31.46	32.98	35.04	2.06	1/34.84 33.48	1/35.00 33.67	33.86	34.05
4	35.31	33.09	2.22	34.81	34.62	34.43	34.24	35.57	40.54	4.97	36.11	36.30	36.49	36.68
3	40.72	35.89	4.83	40.22	40.03	1/39.78 39.84	39.65	40.92	43.43	2.51	41.42	41.61	41.80	41.99
7	43.58	41.13	2.45	43.07	42.88	42.69	42.50	43.95	44.97	1.02	44.45	44.64	44.83	N.S.
7	45.17	44.13	1.04	44.67	44.48	44.29	N.S.	45.39	45.69	0.30	N.S.	N.S.	N.S.	N.S.
2	48.57	46.08	2.49	48.07	47.88	47.69	47.50	48.98	55.34	6.38	49.53	49.72	49.91	50.10
8	55.50	49.15	6.35	55.00	54.81	54.62	54.43	56.24	57.68	1.44	56.74	56.93	57.12	57.31
6	57.99	55.97	2.02	1/56.61 57.49	1/56.45 57.30	1/56.30 57.11	56.92	58.29	60.90	2.61	58.79	58.98	59.17	59.36
35	61.27	58.45	2.82	60.77	60.58	60.39	60.20	61.30	62.43	1.13	61.80	61.99	62.18	62.37

8252

DIRECTOR'S FILE

TRAVEL INFORMATION COUNCIL

310 MORGAN BUILDING • PORTLAND, OREGON • 97205 • Phone (503) 222-1024

TOM McCALL
GOVERNOR

COUNCIL MEMBERS:
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JERRY V FINROW
WILLIAM HEALY
ALEX MURPHY
N P STAROPOLI

STAFF:
JACK SOLLIS
Assistant Attorney General and Counsel
K SCOTT MONTGOMERY
Project Director

September 17, 1974

Mr. George Baldwin
Administrator
Department of Transportation
Highway Building
Salem, Oregon 97310

Orig to Baldwin
W9 file

(See FN
B&I file
9-25

Dear Mr. Baldwin:

The Council was informed this morning of another delay in the contract for the installation of logo sign backboards on Interstate 5.

As you will recall, the original specified completion date of the signing contract was June 19, 1974. Our information indicates that the anticipated completion date is now October 31, 1974, or a delay of 133 days.

The daily revenue loss to the Council is $75, which multiplied by the 133 days equals a total loss of revenue of $9,975. As the Council is dependent entirely upon the revenue generated by the logo signing program, I feel that some adjustment should be made.

If the Highway Division is reluctant to assess the penalty proviso of the contract to reimburse the Council for lost revenues, perhaps an adjustment could be made in the amount owed the Highway Fund by the Council.

I will be most interested in hearing your thoughts regarding this matter.

Best regards,

Alfred A. Hampson

Alfred A. Hampson
Chairman

RECEIVED
SEP 1
DIRECTOR'S

8253 Motorist Service Signing 1975
Col. R. & Old Ore. Tr. btwn
Cascade Locks & Idaho (Sign) [redacted]

#8255 11-2-81

STATE COPY

cy: OSHD (H S Coulter)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FINAL ACCEPTANCE REPORT

REGION NO.	REPORT NO.	COUNTY	DIVISION
10	2	* See below	Oregon
DATE OF REPORT	**REPORT MADE BY**		**PROJECT NO.**
11-2-81	W. N. Bryant, Area Engr		I-80N-0(5)40
COMPLETION DATE	**ACCEPTANCE DATE BY CONTRACT AGENCY**	**TIME ELAPSED**	**CONTRACT TIME**
See below	7-18-77	150 %	200 CD
APPROVED EXTENSIONS	**LOCATION**		
66	Various locations along Interstate 84 between Portland and Ontario.		

*The PR-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, has been submitted.
*A copy of the State's materials certificate is attached to the Division office copy of this report.
There is compliance with section 1.23 of the Regulations pertaining to encroachments on the right-of-way.

REMARKS: *The project has been completed in reasonably close conformity with the approved plans and specifications including authorized changes and extra work.*

*Hood River, Wasco, Sherman, Gilliam, Morrow, Umatilla, Union, Baker, Malheur

MOTORIST SERVICE SIGNING
I-84
Signing

This project provided for the installation of motorist service signing at various locations along Interstate 84 between Portland and Ontario. The project also provided for the stockpiling of additional signs and sign supports to be installed by State Forces as needed.

A contract in the amount of $182,437.00 was awarded Stillwell Construction Co., Bellevue, Washington, on July 2, 1975. Contract work began on January 20, 1976 and was completed in reasonably close conformance with the approved plans and specification on November 4, 1976 at a final estimated cost of $259,466.77, which includes:

Bid item work	$ 184,468.00
Approved changes	19,661.00
Adjustments	1,002.56
Force account work	5,095.14
State Force work	5,983.16
Liquidated damages	-3,500.00 (credit)
Engineering	46,756.91

RECEIVED
STATE HWY ENGR
NOV 13 '81
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

11-13-81

*NOTE: Not applicable for direct federal projects.

(more)

ACCEPTANCE OF PROJECT IS RECOMMENDED		ACCEPTED BY FEDERAL HIGHWAY ADMINISTRATION	
SIGNATURE	W. N. Bryant Area Engineer W. N. Bryant	SIGNATURE	Original Signed By G. K. HOSSNER Field Operations Engineer Glenn K. Hossner
TITLE: Area Engr	DATE: 11/6/81	TITLE: Field Operations Engr	DATE: 11/6/81

FORM FHWA-1446 B (12-73) FORMERLY PR-336 — Previous Editions of PR-336 Will Not Be Used.

A total of 301 calendar days were used in completing the work, as compared to the 200 calendar days specified. A 66-calendar-day time extension was approved on September 29, 1976, leaving 35 calendar days for which liquidated damages in the amount of $3,500.00 was assessed.

An estimated $7,226.34 additional cost was incurred by State Forces in the installation of stockpiled sign material subsequent to completion of the contract work. Because of the length of time (4.5 years) between completion of the original contract work and completion of the work performed by State Forces, an in-depth review of the current status of all logo signing was conducted during the month of September 1981. As a result of this review (copy attached to the Division Office copy of this report), several items were found which were not in full conformance with the current standards. However, based on the results of a meeting with the State Traffic Engineer on October 27, 1981, final acceptance of this project is now recommended.

------WB--------

#8253 10-19-81

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

1. FEDERAL-AID PROJECT NO.: I-80N-0(5)40
2. STATE PROJECT NO.: See below

3. FROM: Dale E. Wilken, Division Administrator
FHWA - Oregon Division

4. PROGRAM NO.:

5. ITEM NO.: I-830

2A. COUNTY NAME: Various

6. TO:

Mr. H. S. Coulter
State Highway Engineer
State of Oregon
Salem, Oregon

7. DATE AUTHORIZATION EFFECTIVE: 9/2/81

8. FEDERAL ROUTE NUMBER: Interstate 80N

9. STATE ROUTE NUMBER: Primary 2 & 6

10. GENERAL LOCATION:

Motorist Service Signing Project

11. GENERAL DESCRIPTION OF WORK

Credit to project

12. YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

- [ ] PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY
- [ ] PRELIMINARY ENGINEERING FOR CONTRACT PLAN PREPARATION
- [ ] ACQUISITION OF RIGHT-OF-WAY
- [ ] CONSTRUCTION — ADVERTISE FOR RECEIPT OF BIDS
- [ ] CONSTRUCTION PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS
- [XX] OTHER *(Specify)* See below

13. REMARKS

As requested in Mr. Keasey's letter of 9/21/81 I approve the advance authorization date of 9/2/81 to credit the project for sign materials not installed for a credit of TEC $1,706.80 Federal Funds $1,536.

(Represented by SFO #9)

RECEIVED
STATE HWY ENGR
OCT 23 '81
REFER TO
F.C.F.
Info | Invest | R/D | D/K | Sipn | Act | File

14. DATE: 10/19/81

15. SIGNATURE OF APPROVING OFFICIAL: E. K. Hoosier

16. TITLE: for Division Administrator

FORM PR-1240 (Rev. 12-79) PREVIOUS EDITIONS MAY BE USED

8253

L.

STATE OF OREGON

INTEROFFICE MEMO

Highway - Traffic

TRA 7-5

TO: D. H. Moehring
Assistant State Highway Engineer
Project Management Branch

DATE: August 25, 1981

FROM: L. E. George
Traffic Engineer

SUBJECT: Logo Sign Contracts

Copy to S. Con

The following is a tabulation of logo sign contracts that have been kept open and active for the past several years to allow use of material furnished under the contracts.

I-5 North Unit
Contract No. 8260
Prefix 622-1056

I-5 South Unit
Contract No. 8252
Prefix 610-1058

I-80N (now I-84)
Contract No. 8253
Prefix 614-1083

This letter is to request that you initiate action necessary to close these contracts and final them out.

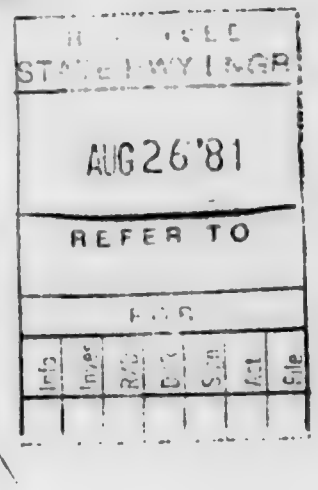
The contracts remaining stockpiled material should be credited to each contract. The total dollar value of the remaining material is $16,506.51. Signs sold up to June 30, 1981 (closing date) total $11,386.12.

The remaining balance of $5,120.39 should be credited in three equal amounts among the three contracts, since we do not have an inventory of which contract the material originally came from.

If any further information is required, please let me know.

ORIGINAL SIGNED BY L. E. GEORGE

L. E. George
Traffic Engineer



LEG:ds

cc: H. S. Coulter
J. L. Sollis
C. T. Keasey
R. L. Schroeder
R. J. Hacek
E. L. Hardt
C. O. Fredrickson
Alfred Shirley, Jr.
D. D. Allen
W. E. Schwartz
Brenda Holman

VICTOR ATIYEH
GOVERNOR

Travel Information Council

97310
RM. 603, EXECUTIVE HOUSE, 325 13th ST. NE., SALEM, OREGON ~~97310~~ PH. (503) 378-3438

23 June 1981

To: Al Hampson, Chairman
Travel Information Council

From: Brenda Holman, Director
Travel Information Council

BH.

NOTED
H. S. COULTER

Re: Interstate logo backboards ordered to reduce backboard stockpile obligation

To confirm my verbal report to you during our 6/22 meeting, attached is a listing of installed or pending backboards sold by this office since December 1979.

To bring you up-to-date on the background of the stockpiled sign material, Scott Coulter, State Highway Engineer, requested in a 12/16/80 letter to Glen L. Green, Division Administrator, Federal Highway Administration, that the contract be extended to June 30, 1981. On January 13, 1981, Mr. Green approved extension of the contract.

In his request, Mr. Coulter stated, "Our previous letter indicated that an estimated $40,000 worth of material in the stockpile at the beginning of 1980. An inventory made the latter part of November showed a remaining $12,000 left in the material stockpile.

"At the present rate of sales, the stockpile should be completely used by July 1, 1981."

It is my hope that this goal has been accomplished.

BH:mt
Attachment
cc: Scott Coulter, State Highway Engineer ✓
L. E. George, Traffic Support Services
Jack Sollis, Ass't. Attorney General/Counsel to T.I.C.

RECEIVED
STATE HWY ENGR
JUN 23 '81
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

Interstate Logo Backboards Ordered by Travel Information Council Since 12/79

M/Yr	Exit Number	Direction	Category	Total
6/81	#32 (I-5)	SB	Food (pending)	1
6/81	#99	NB	Food (pending)	1
6/81	#163	N/SB	Food (pending)	2
5/81	#120	NB	Lodging (pending)	1
5/81	#253	N/SB	Food (pending)	2
11/80	#283	NB	Lodging	1
9/80	#283	NB	Food	1
8/80	#182	N/SB	Food	2
8/80	#182	N/SB	Lodging	2
9/80	#233	SB	Lodging	1
4/80	#119	N/SB	Lodging	2
9/80	#98	SB	Food	1
8/80	#108	NB	Food	1
5/81	#129	N/SB	Gas	2
4/80	#195	NB	Lodging	1
6/81	#109 (I-84)	E/WB	Food (pending)	2
3/81	#374	WB	Lodging	1
2/81	#207	EB	Food (pending)	1
12/80	#82	EB	Food	1
8/80	#62	EB	Food	1
8/80	#62	EB	Lodging	1
5/80	#137	E/WB	Food	2
5/80	#137	E/WB	Lodging	2
2/81	#31	E/WB	Food (pending)	2
12/80	#210	EB	Food	1
12/80	#210	EB	Lodging	1
4/80	#265	WB	Lodging	1
4/80	#304	E/WB	Food	2
4/80	#304	E/WB	Lodging	2
			TOTAL	41

NOTE: Unless "pending" noted, backboards are installed.

8253

NOTED
H. S. COULTER

VICTOR ATIYEH
GOVERNOR

Travel Information Council

RM. 603, EXECUTIVE HOUSE, 325 13th ST. NE., SALEM, OREGON 97310

RECEIVED
STATE HWY ENGR
FEB 9 '81
REFER TO
FOR
Info | Invest | B/D | D/R | Sign | Agt | File

9 February 1981

To: Members, Travel Information Council/Jack Sollis, Legal Counsel

From: Brenda Holman, Director BH

Re: For your information

In the "good news" department: Based on an excellent letter from Scott Coulter (attached), Glen Green, FHWA, has approved Mr. Coulter's request for an extension of the logo backboard contract through June 1981. The stockpile is dwindling, and I am continuing the marketing effort to sell remaining backboards before that June cutoff date.

In "more good news" category, we installed 19 logos and 13 supplementals during December, per our monthly report to Accounting. This is a record number of installations for a 30-day period.

Also a plus was the fact that our consultants in accounting and legal tell me that the Secretary of State's audit report, a copy of which you all recently received, was "clean."

So that you will have a better grasp of what has happened during 1980, I am in the process of preparing a year-end "Annual Report" for Council Members which will detail the number of inquiries we have had; applications processed, finalled, and approved; signs installed; etc. In addition, I will try to recap for you our progress on the nonInterstate program. Newest installations in that segment of our business are those at Blue Lake Resort and Fourth Sisters Lodge in Central Oregon; the Marketplace, Salishan; O'Shannon Motel, Pacific City; and at Red Lion Rippling River, Wemme. Applications are finalled, also, for a total of 12 signs for gas, food, and lodging facilities in Sun River. The installation of these Sun River Chevron logos will be the first signs in the "gas" category which we have installed since off-Interstate installations began May 15, 1980.

To further tie up end-of-the-year matters, I was on the road eight days during the first two weeks of January and did a complete photo inventory of every logo sign and every supplemental sign we have on I-84 and I-5. Previously, photo records were provided by local highway crews who took Polaroid pictures at the time of sign installation or removal; these photos were coupled with application data to provide our inventory count. The new up-to-date photo record, however, will give us a better handle on sign deterioration, exact counts, supplemental signing needs, and space availability.

Regarding logo sign deterioration/peeling: because of the mandatory replacement notification we have instituted, the condition of the logos is probably as good as it has been for some time. Individual business owners, at our notification, have been asked to replace fading or peeling signs. Cost of the replacement is borne by the client.

In the "people news", our newest Travel Information Council member, Marla Rae, who was previously news director for a Bend radio station, is based in Salem now as Communcations Director for the Department of Justice. A new updated roster is enclosed.

For your information, enclosed is a copy of Senate Bill 27, which would extend the life of the Travel Information Council, as it now exists, through July 1, 1983. It has been referred to the Senate's Government Operations Committee. Per a call from Charlie Hales, Oregon Motor Hotel Association, their Board of Directors has voted support for the Bill (see attached).

In addition, House Bill 2003 relates to Travel Information Council membership. To better familiarize myself with legislative procedures, I participated (January 26 and 29) in an excellent two-day afternoon/evening workshop sponsored by the Executive Department to improve legislative presentations.

I presented the Travel Information Council budget material, with the assistance of Scott Coulter, to the Ways & Means Committee on Friday, February 6, during the Highway Division's hearing.

You will be hearing a new voice on the phone at the Travel Information Council Office in Salem; Myra Taylor is replacing Alice Esplin, secretary, who has resigned, effective February 6. Myra was with the Corrections Division; she also served as administrative assistant at the State of Oregon Marine Board, and as a committee clerk for three legislative assemblies. I want to share with you my appreciation for Alice's service to me, and to the Council. I wish her the best on her new endeavors.

No date has been set yet for the next Travel Information Council meeting, but I will let you know as soon as one is firm.

BH:mt

Enclosures

1. Coulter letter to Green
2. Senate Bill 27
3. Pages 3 & 4 of House Bill 2003
4. OMHA letter
5. Council roster

Department of Transportation

STATE HIGHWAY DIVISION

In Reply Refer to
File No. TRA 7

DATE: December 16, 1980

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM:
H. S. Coulter
State Highway Engineer

SUBJECT: Oregon Projects I-80N-0(5)40 and I-5-0(4)-11 8253
Motorist Information Signing
Refer to: HFO-OR/520.61

Your letter of February 8, 1980, stated that no further extensions would be granted to hold open the interstate logo contracts such that stockpiled sign material might be used and charged against the contract.

We realize that your office has taken a very strong position on this matter. We also recognize the cooperation given to the State through granting past extensions of time.

It is believed, however, that some related information needs to be called to your attention. If you recall, the stockpiled material was not reduced at a very rapid rate in the past. Previous Travel Information Council Directors and a recent new change in directors produced circumstances that did not allow a concentrated effort to be made in reducing the stockpiled material.

Our previous letter indicated that an estimated $40,000 worth of material in the stockpile at the beginning of 1980. An inventory made the latter part of November showed a remaining $12,000 left in the material stockpile. At the present rate of sales, the stockpile should be completely used by July 1, 1981.

In the interest of keeping the Travel Information Council solvent and operating properly, I believe it to be in the best interest of the State of Oregon to request that you reconsider your position and grant one more six-month time extension of the contract to June 30, 1981. Your review of these facts in considering our request is sincerely appreciated.

LEG:ds jh
bc: L. E. George J. L. Sollis Brenda Holman

Form FHWA 121 (7/80)

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

OREGON DIVISION - SALEM
UNITED STATES GOVERNMENT

memorandum

Subject: Oregon Projects I-80N-0(5)40 8253 and I-5-0(4)11 8252
(Your ltr, 12-16-80, TRA 7)

Date: January 13, 1981

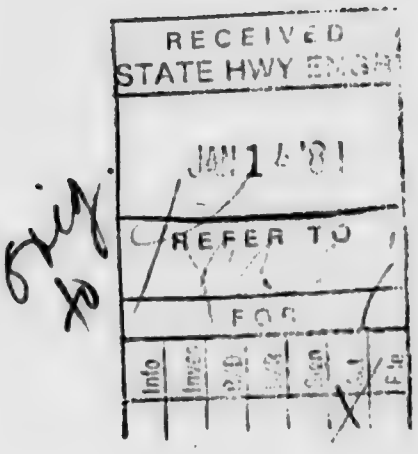
From: G. L. Green, Division Administrator

Reply to Attn. of: HPO-OR/520.61

To: Mr. H. S. Coulter, State Highway Engineer

Your request to extend the completion date on the subject projects to June 30, 1981 is hereby approved.

for G. L. Green



L.

TRA 7

DATE: December 16, 1980

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM: H. S. Coulter
State Highway Engineer

SUBJECT: Oregon Projects I-80N-0(5)40 and
I-5-0(4)-11
Motorist Information Signing
Refer to: HFO-OR/520.61

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It is believed, however, that some related information needs to be called to your attention. If you recall, the stockpiled material was not reduced at a very rapid rate in the past. Previous Travel Information Council Directors and a recent new change in directors produced circumstances that did not allow a concentrated effort to be made in reducing the stockpiled material.

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In the interest of keeping the Travel Information Council solvent and operating properly, I believe it to be in the best interest of the State of Oregon to request that you reconsider your position and grant one more six-month time extension of the contract to June 30, 1981. Your review of these facts in considering our request is sincerely appreciated.

LEG:ds jh
bc: L. E. George J. L. Sollis Brenda Holman

Form FHWA 121 (6/79)

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

THE OREGON DIVISION - SALEM
UNITED STATES GOVERNMENT

memorandum

Subject: Oregon Projects I-80N-0(5)40 and I-5-0(4)-11
Motorist Information Signing
(Your memo, 1-25-80)

Date: February 8, 1980

From: G. L. Green, Division Administrator

Reply to Attn. of: HFO-OR/520.61

To: Mr. H. S. Coulter, State Highway Engineer

Your memorandum requested our reconsideration for extending the contracts for subject projects to December 31, 1980. You cited recent personnel changes in the Travel Information Council and revisions in sign spacing requirements as being the reason for additional contract time.

In a spirit of cooperation, I am approving extension of the contracts to December 31, 1980. I realize that TIC has experienced personnel changes, but the spacing revisions were made in June 1977 - over 2 years ago.

Please be advised that I will not consider another extension, so your program should be developed accordingly. The present contracts are to be terminated after December 31, 1980.

G. L. Green

cc:
OSHD (Mr George, Traff Sec, OTS)

NOTED
GLEN L. CLARK

NOTED
ELMER SCOFIELD

NOTED
L. E. GEORGE

RECEIVED
STATE HWY ENGR
FEB 11 '80
REFER TO
FOR
Info | Inves | R/D | D/E | Sign | Act | File

RECEIVED

TRAFFIC ENGINEERING

8253

Form FHWA 121 (6/79)

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

THE OREGON DIVISION - SALEM
UNITED STATES GOVERNMENT

memorandum

Subject: Oregon Projects I-80N-0(5)40 and I-5-0(4)-11
Motorist Information Signing
(Your memo, 1-25-80)

Date: February 8, 1980

From: G. L. Green, Division Administrator

Reply to Attn. of: HFO-OR/520.61

To: Mr. H. S. Coulter, State Highway Engineer

Your memorandum requested our reconsideration for extending the contracts for subject projects to December 31, 1980. You cited recent personnel changes in the Travel Information Council and revisions in sign spacing requirements as being the reason for additional contract time.

In a spirit of cooperation, I am approving extension of the contracts to December 31, 1980. I realize that TIC has experienced personnel changes, but the spacing revisions were made in June 1977 - over 2 years ago.

Please be advised that I will not consider another extension, so your program should be developed accordingly. The present contracts are to be terminated after December 31, 1980.

G. L. Green

cc:
OSHD (Mr George, Traff Sec, OTS)

2-14 Letter of Travel Info Council

RECEIVED
STATE HWY ENGR
FEB 11 '80
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

8253

DATE: January 25, 1980

TRA 7

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM:
H. S. Coulter
State Highway Engineer

SUBJECT: I-80N-0(5)40 and I-5-0(4)11
Motorist Information Signing
Refer to: HFO-OR/520.61

Your letter of January 15 indicated that the Logo contracts should be finalized as rapidly as possible. We agree that your agency has been more than cooperative in extending the life of these contracts several years to permit use of stockpiled material.

There are some valid reasons for our most recent extension request. Recent personnel changes in the Travel Information Council have unavoidably delayed the sales of interstate Logos and the use of stockpiled material. A new Director has been employed and is now familiar with the work. Several recent requests will require use of stockpiled material. The new Federal Logo Regulations that decreased the spacing between backboard locations will also result in the use of some stockpiled material, since additional sign installations will now be possible that were not before.

Considered together, these conditions should result in considerable use of material from the stockpile over the next year. Because of these circumstances, we request your reconsideration for one more year of extension on the contract times.

LEG:ds jh
bc: J. L. Sollis
L. E. George
Brenda Holman

Form FHWA 121 (6/79)

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

THE OREGON DIVISION - Salem
UNITED STATES GOVERNMENT

memorandum

Subject: Oregon Projects
I-80N-0(5)40 and I-5-0(4)11
Motorist Information Signing

Date: January 15, 1980

From: G. L. Green, Division Administrator

Reply to Attn. of: HFO-OR/520.61

To: Mr. H. S. Coulter, State Highway Engineer, ODOT

Your December 26, 1979 request to extend the time to install the remaining stockpiled material to December 31, 1980 cannot be approved.

This is a five-year old project that has been extended several times. You were advised at the time of the last extension that we would not consider an additional extension. I believe our previous actions have been very reasonable providing sufficient time to install all necessary signs.

Please take necessary action to have this five-year old project terminated as of December 31, 1979.

/s/ G. L. Green

G. L. Green

NOTED
ELMER SCOFIELD

NOTED
L. E. GEORGE

1/18 cy Finishing Dist 2 Dist 3 Dist 4

RECEIVED
STATE HWY ENGR
JAN 16 '80
REFER TO
Leasy
FOR
Info | Invest | Rpt | Dup | Sign | Act | File

NOTED
DWAYNE HOFSTETTER

RECEIVED
TRAFFIC ENGINEERING

DATE: February 27, 1979

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM: H. S. Coulter
State Highway Engineer

SUBJECT: Oregon Projects I-5-0(4)11 & I-80N-0(95)40
Motorist Information Signing
HFO.1-OR/520.61

Your memorandum of January 23, 1979, requested a breakdown of the stockpiled signs showing how many of the signs have been installed, the location, types and the cost of each.

Attached are tabulations for the three projects awarded in 1975. The locations shown are for the signs that were stockpiled in the original contracts. The "X" marks in the last column indicate locations where the stockpiled logo signs have been installed throughout the years.

The totals of sheets 1, 2 and 3 show that 132 signs were stockpiled and up to date, 66 have been installed on existing footings. This leaves 66 footings at various locations with no signs mounted on them.

The tabulation on sheet 4 shows that 19 of the stockpiled signs were installed at locations not called for on the stockpiled list.

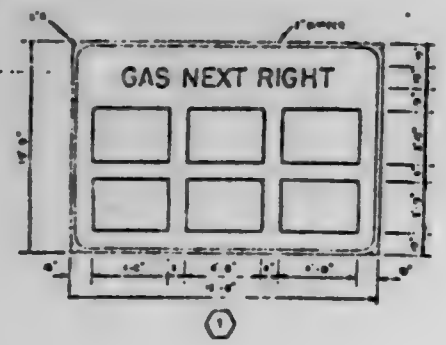
The summary sheet, No. 5 shows that 47 signs remain in the stockpile. An inventory taken on December 12, 1978, showed an actual count of 46 signs remaining in the stockpile. The variation is caused by the fabrication of large signs from several small signs and by signs which were removed and returned to the stockpile. When signs have been installed for existing logo sales, the stockpile will be reduced to approximately 40 sign panels.

Your memo requested the cost of each sign installation. To determine those costs would require lengthy and costly research. Therefore, sign costs are not included in this reply.

ELS:cs HSC:cm
bc: J. L. Sollis
L. E. George
Blake Eklund

TYPE OF SIGN

(See Column 3 of Tabulation)



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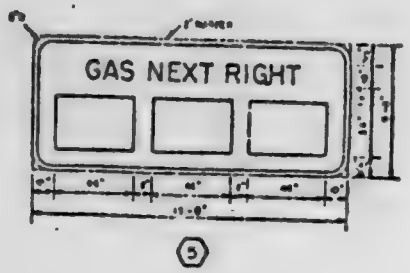

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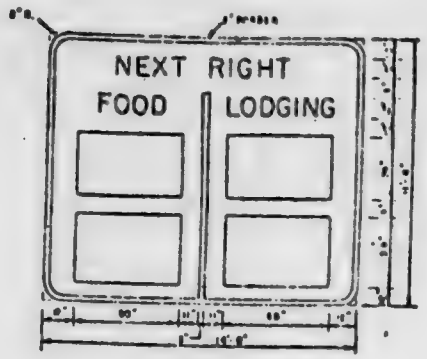

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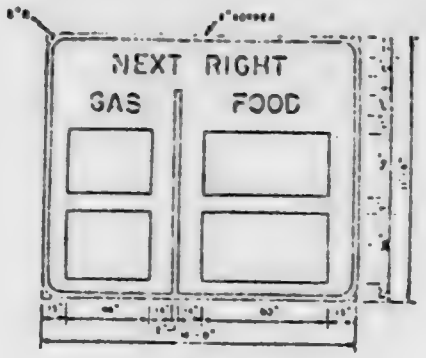

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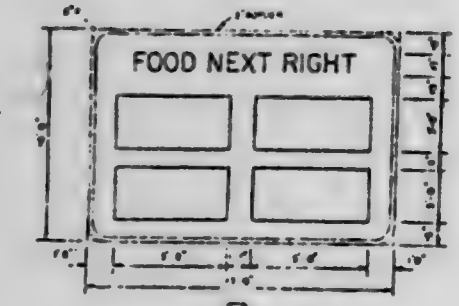
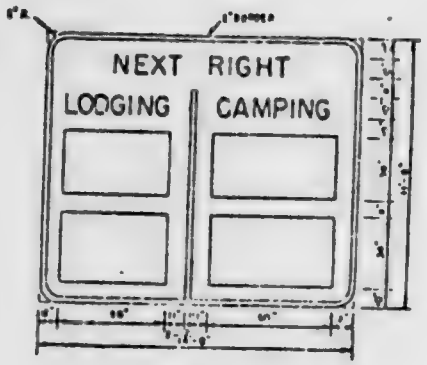


②

⑥



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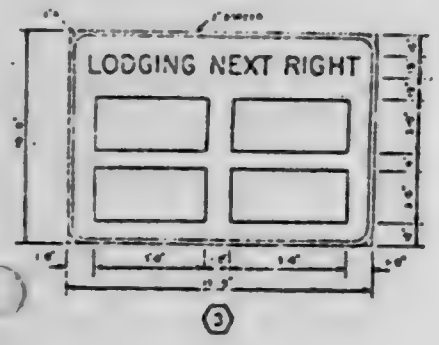

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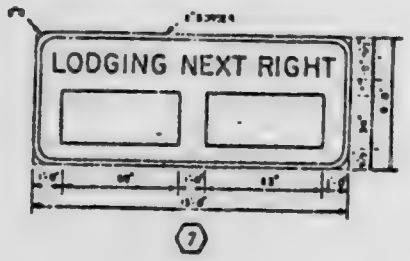

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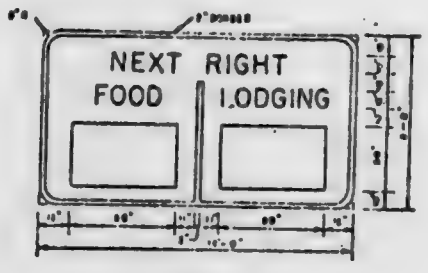

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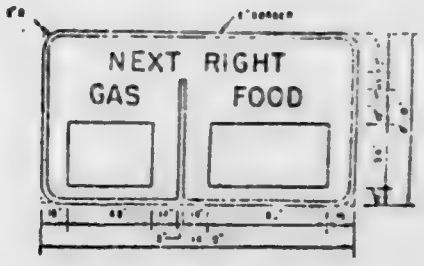

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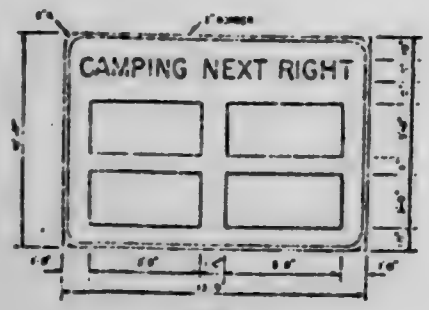
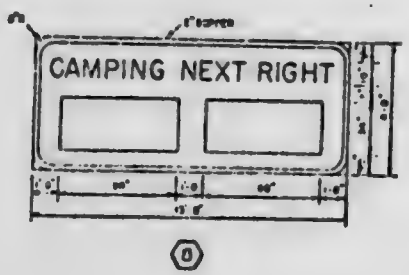


④



⑧

All Signs Type "B"

Form 81-734-5049

OREGON STATE HIGHWAY DIVISION

TABULATION SHE

SHEET 1A OF ..... SHEE

Stockpiled Signs

Pacific Highway (S. Unit) (Interstate 5)

Sign Stockpiled on Original Contract						Signs Installed		
Interchange Name		Interchange Number	Type of Sign	M.P.	Direction of Travel			
South Ashland		11	3	10.72	NB			
South Ashland		11	8	10.50	NB			
Green Springs		14	8	12.90	NB	X		
Green Springs		14	8	15.47	SB	X		
North Ashland		19	3	20.11	SB	X		
North Ashland		19	8	20.33	SB			
Valley View Road		21	12	21.84	SB			
Barnett Road		27	8	26.27	NB			
Barnett Road		27	8	29.75	SB			
Crater Lake		30	8	29.19	NB	X		
Crater Lake		30	8	31.63	SB	X		
Central Point		32	3	31.65	NB			
Central Point		32	8	31.37	NB			
Central Point		32	3	33.87	SB			
Central Point		32	8	34.04	SB			
Kane Creek		40	12	40.04	NB	X		
Kane Creek		40	12	41.48	SB	X		
Rock Point		43	6	42.89	NB			
Rock Point		43	3	42.69	NB			
Rock Point		43	6	44.60	SB			
Rock Point		43	3	44.83	SB			
Homestead		45A	14	44.46	NB			
Rogue River		48	2	47.85	NB	X		
Rogue River		48	3	47.65	NB	X		
Rogue River		48	4	47.40	NB			

Form 81-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHE

SHEET 1B OF ... SHEE

Interchange Name		Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
Rogue River		48	2	49.77	SB	X		
Rogue River		48	3	49.95	SB	X		
Rogue River		48	4	50.16	SB			
East Grants Pass		55	3	54.66	NB			
East Grants Pass		55	4	54.35	NB			
East Grants Pass		55	3	57.19	SB			
East Grants Pass		55	4	57.38	SB			
North Grants Pass		58	4	56.15	NB	X		
North Grants Pass		58	4	59.35	SB	X		
Sunny Valley		71	8	70.34	NB	X		
Sunny Valley		71	8	72.61	SB	X		
Wolf Creek		76	13	75.12	NB	X		
Wolf Creek		76	13	77.35	SB	X		
South Canyonville		98	7 (3)	97.33	NB	X		Revised to No. 3
South Canyonville		98	1	99.12	SB	X		
North Canyonville		99	7 (3)	100.59	SB	X		Revised to No. 3
Myrtle Creek		108	1	107.56	NB			
Myrtle Creek		108	2	107.31	NB			
Myrtle Creek		108	7	107.16	NB			
Myrtle Creek		108	1	108.94	SB			
Myrtle Creek		108	7	109.30	SB			

TOTAL NUMBER OF STOCKPILED SIGNS 46

NUMBER INSTALLED 20

Form 81-T34-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHEE

SHEET ....2.... OF ..... SHEE

Stockpiled Signs

Pacific Highway (N. Unit) (Interstate 5)

Signs Stockpiled on Original Contract

Interchange Name	Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
arden Valley Road	129	8	126.37	SB			
utherlin	136	2	135.64	NB	X		
utherlin	136	3	135.49	NB	X		
utherlin	136	8	137.28	SB			
ice Hill	148	7	147.60	NB	X		
ice Hill	148	2	149.27	SB	X		
ice Hill	148	7	149.45	SB	X		
oncalla	150	7	149.16	NB			
oncalla	150	7	151.32	SB			
ottage Grove	174	8	174.04	NB			
ottage Grove	174	3	175.72	SB	X		
ottage Grove	174	8	175.99	SB			
cVay	189	6	189.00	NB			
cVay	189	6	191.2	SB			
cVay	189	7	191.51	SB			
lenwood	191	5	191.01	NB	X		
lenwodd	191	5	193.22	SB	X		
burg Road	199	17	198.12	NB			
iamond Hill	209	8	208.30	NB	X		
iamond Hill	209	8	210.30	SB	X		
ntiam	233	1	233.72	SB	X		
odburn	271	7	270.84	NB	X		
odburn	271	7	270.84	SB	X		

TOTAL NUMBER OF STOCKPILED SIGNS	23
NUMBER INSTALLED	13

Form 81-734-5039

OREGON STATE HIGHWAY DIVISION

TABULATION SHE

SHEET 3A OF ..... SHEE

Stockpiled Signs

Columbia River & Old Oregon Trail Highways

Interstate 80 North

Signs Stockpiled on Original Contract

Interchange Name		Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
Cascade Locks		44	1	42.96	EB	X		
Cascade Locks		44	1	45.80	WB	X		
West Hood River		62	5	60.70	EB	X		
West Hood River		62	2	61.30	EB			
West Hood River		62	3	61.07	EB			
West Hood River		62	8	60.68	EB			
West Hood River		62	5	62.67	WB	X		
West Hood River		62	2	62.86	WB	X		
West Hood River		62	8	63.23	WB			
East Hood River		64	13	65.40	WB			
West The Dalles		83	1	85.09	EB	X		
West The Dalles		83	3	82.63	EB	X		
West 2nd Street		84	1	84.55	WB	X		
West 2nd Street		84	2	84.89	WB	X		
West 2nd Street		84	3	85.07	WB			
Brewery Grade		85	1	84.99	EB			
Brewery Grade		85	3	84.99	EB			
Brewery Grade		85	1	86.09	WB			
Brewery Grade		85	3	86.57	WB			
The Dalles	Bridge	87	2	86.20	EB	X		
The Dalles	Bridge	87	14	85.99	EB	X		
The Dalles	Bridge	87	2	87.98	WB	X		
The Dalles	Bridge	87	14	88.26	WB	X		
Biggs		104	2	103.52	EB			
Biggs		104	2	105.47	WB			
Rufus		109	13	110.81	EB			

Form 81-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHE

SHEET ...3B... OF ..... SHE

Interchange Name		Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
Rufus		109	13	110.81	WB			
Arlington		137	13	136.81	EB			
Arlington		137	8	136.37	EB			
Arlington		137	13	139.08	WB			
Arlington		137	8	139.59	WB			
Boardman		164	2	163.26	EB			
Boardman		164	3	163.06	EB			
Boardman		164	8	162.77	EB			
Boardman		164	2	165.05	WB			
Boardman		164	3	165.22	WB			
Boardman		164	8	165.44	WB			
West Pendleton		207	1	206.65	EB	X		
West Pendleton		207	2	206.45	EB			
West Pendleton		207	1	208.26	WB	X		
West Pendleton		207	2	208.51	WB			
West Pendleton		207	3	208.69	WB	X		
Emigrant Avenue		209	3	210.30	WB	X		
South Pendleton		210	1	210.30	EB			
South Pendleton		210	2	210.17	EB	X		
South Pendleton		210	3	209.92	EB	X		
South Pendleton		210	2	211.95	WB	X		
South Pendleton		210	3	212.18	WB	X		
Wallowa Lake		261	3	262.61	EB	X		
Wallowa Lake		261	1	262.86	WB	X		
Wallowa Lake		261	3	263.06	WB	X		

Form 81-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHEE

SHEET ...3C... OF ..... SHEE

Interchange Name		Interchange Number	Type of Sign	M.P.	Direction of Travel	Signs Installed		
Union Junction		265	16	265.76	WB	X		
North Powder		285	17	284.65	EB			
North Powder		285	17	286.57	WB			
Campbell Street		304	5	303.40	EB	X		
Campbell Street		304	13	303.24	EB	X		
Campbell Street		304	5	304.83	WB	X		
Campbell Street		304	13	305.06	WB	X		
South Baker		306	1	307.46	WB	X		
South Baker		306	2	307.72	WB	X		
South Baker		306	3	308.48	WB	X		
North Ontario		374	1	373.93	EB			
North Ontario		374	2	373.69	EB			

TOTAL NUMBER OF STOCKPILED SIGNS 63

NUMBER INSTALLED 33

Form 81-734-5049

OREGON STATE HIGHWAY
DIVISION

TABULATION SHEE

SHEET 4 .... OF ..... SHEE

Stockpiled signs installed at other locations

Interchange Name		Exit Number	Type of Sign	Direction of Travel				
Interstate 5								
North Ashland		19	5	NB				
Crater Lake		30	2	NB				
Crater Lake		30	3	NB				
Glendale		80	6	NB				
Glendale		80	6	SB				
Coburg		199	2	NB				
Coburg		199	2	SB				
Harvand Avenue		124	2	SB				
North Albany		234	2	SB				
North Santiam		253	3	SB				
Brooks		263	6	NB				
Brooks		263	6	SB				
Fargo Road		278	6	NB				
Fargo Road		278	6	SB				
Interstate 80 North								
South Pendleton		210	8	WB				
Richland		302	8	EB				
Richland		302	8	WB				
Benson Creek		353	7	EB				
Benson Creek		353	7	WB				
		TOTAL		19				

Form 8A-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHEE

SHEET 5 OF ..... SHEE

SUMMARY

TOTAL NUMBER OF SIGNS IN ORIGINAL STOCKPILE			
Interstate 5 (S Unit)	46		
Interstate 5 (N Unit)	23		
Interstate 80 North	63		
TOTAL	132		132
SIGNS INSTALLED AT STOCKPILED SITES			
Interstate 5 (S Unit)	20		
Interstate 5 (N Unit)	13		
Interstate 80 North	33		
TOTAL	66		66
Existing Stockpiled sites with no signs			66
Signs installed at other locations			19
Number of signs remaining in stockpile			47

Form FHWA 121 (Rev. 5-73)

Scofield
Draft reply

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
The Equitable Center, Suite 100
530 Center NE. - Salem OR 97301

DATE: January 23, 1979

In reply refer to: HFO.1-OR/520.61

SUBJECT: Oregon Projects I-5-0(4)11 & I-80N-0(95)40
Motorist Information Signing

FROM : G. L. Green, Division Administrator

TO : Mr. H. S. Coulter, State Highway Engineer
Oregon Department of Transporation
Salem, Oregon

As requested in your December 26, 1978 letter, the time to complete the installation of all original stockpiled signing material on the subject projects was recently extended to December 31, 1979. In order for us to determine the overall effectiveness of this procedure, as well as respond to inquiries from other offices, it is requested that a breakdown showing how many signs have been installed, their locations and types, and cost of each, be furnished as soon as possible. An estimate of the number of signs remaining to be installed would also be useful.

Please feel free to call if you have any questions regarding this request.

G. K. Hoesner
for G. L. Green

NOTED
ELMER SCOFIELD

RECEIVED
STATE HWY ENGR
JAN 25 '79
REFER TO
FOR

RECEIVED
JAN 26 REC'D
TRAFFIC ENGINEERING

NOTED
DWAYNE HOFSTETTER

#8253

Form FHWA 121 (Rev. 8-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
The Equitable Center, Suite 100
530 Center NE. - Salem OR 97301

DATE: January 8, 1979

In reply refer to: HFO.1-OR/520.61

SUBJECT: Oregon Projects I-5-0(4)11 & I-80N-095)40
Motorist Information Signing

FROM : G. L. Green, Division Administrator

NOTED
H. S. COULTER

TO : Mr. H. S. Coulter
State Highway Engineer
Oregon Department of Transportation

For the reasons outlined in your December 26, 1978, letter, the time to complete the installation of all original stockpiled signing material on these projects is extended to December 31, 1979, as requested. This additional time should be adequate to complete all work on these projects; therefore, future extension of time will not be approved. All signing installed must, of course, be in full conformance with approved standards in order to qualify for Federal-aid funding.

for G. L. Green

RECEIVED
STATE HWY ENGR
JAN 9 - '79
REFER TO
FOR
Info | Inves | R/D | D R | Sign | Act | File

cys George
Sallee
Blake Ekland
1/10/79

Form 81-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHEET

SHEET 1 OF 2 SHEETS

Traveled Interest Service Signing
Postings in Both Signs at Interchange
Region 3

LP	Interchange	NB - SB	Type
0.12	So. Ashland	N.B	Lodging
0.33	N Ashland	S.B	Camping
1.89	Valley View	S.B	Gas
2627	Barnett Rd	N.B	Camping
2975	Barnett Rd.	S.B	Camping
3137	Central Point	N.B	Camping
3165	Central Point	N.B	Lodging
3387	Central Point	S.B	Lodging
3407	Central Point	S.B	Camping
4269	Rock Point	N.B	Lodging
4287	Rock Point	N.B	Food
4768	Rock Point	S.B	Food
4852	Rock Point	S.B	Lodging
4946	Homestead	N.B	Lodging
5124	Rogue River	N.B	Camping
5016	Rogue River	S.B	Camping
5406	E Grants Pass	N.B	Lodging
5435	E Grants Pass	N.B	Camping
5517	E Grants Pass	S.B	Lodging
5538	E Grants Pass	S.B	Camping
10216	Myrtle Creek	N.B	Lodging
10231	Myrtle Creek	N.B	Food
10256	Myrtle Creek	N.B	Gas
10294	Myrtle Creek	S.B	Gas
10230	Myrtle Creek	S.B	Lodging
3232	Sutherlin	S.B	Camping

Form 81-734-3049

OREGON STATE HIGHWAY DIVISION

TABULATION SHEE

SHEET 2 OF 2 SHEET

MP	Name	NB SB	Type				
1916	Yamhill	NB	Lodging				
1917	Yamhill	SB	Lodging				
1976	Cottage Grove	NB	Camping				
1976	Cottage Grove	SB	Camping				
1908	McKay	NB	Food				
1952	McKay	SB	Food				
1953	McKay	SB	Lodging				

8253

2

DATE: August 23, 1978

TO: Glen L. Green, Division Administrator
Federal Highway Administration

FROM:
H. S. Coulter
State Highway Engineer

SUBJECT: Oregon Projects I-80N-0(5)40 and I-5-0(4)11
Motorist Information Signing
HFO.1-OR 520.61

The following information is presented in answer to your July 19 letter regarding the Logo contract projects on I-5.

Item 2a. Budget Gas and Diesel does sell ARCO gasoline but their legal business name properly registered with the Secretary of State is "Budget Gas and Diesel." There is no reason under federal and state regulations why this business should not have their legal business name on the Logo panel.

Item 2b. Action has already been taken to remove the "Truck Stop" Logo.

Item 2c. The "Motel 6" Logo will be properly installed when the area dries out enough that we can bring in the heavy equipment necessary to install the larger backboard.

Item 2d. Travel Information Council regulations permit the installation of a supplemental Logo if freeway Logo boards are completely filled. Such is the case involving McDonalds at the Woodburn Interchange. We are puzzled by your remark concerning "removal for safety reasons." To the best of our knowledge, McDonalds' supplemental Logo creates no safety problem.

Item 2e. Past correspondence transmitted to you (copies enclosed) indicates that the Burns Brothers Motel is a valid operation, open to the public and that no reason exists for the removal of their Logo.

Concerning your comments in Items 1 through 4 of the last paragraph of your letter, I am instructing the appropriate Region Engineers to review each of the sign locations to determine what action, if any, is desirable. The exception to the review is the Hungry Wolf Logos. Both the food and gasoline operations are legal and valid businesses and entitled to a Logo under Travel Information Council rules and regulations.

Enc.

bc Jack Sollis
C. T. Keasey
L. E. George
E. L. Hardt)
C. O. Fredrickson) T.A.A.
Alfred Shirley, Jr.)
Dick Mathew
Blake Eklund

LEG:ds ia

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

RECEIVED
STATE HWY ENG
JUL 24 '78
REFER TO
FOR

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
The Equitable Center, Suite 100
530 Center NE. - Salem OR 97301

DATE: July 19, 1978

In reply refer to: HFO.1-OR 520.61

SUBJECT: Oregon Projects I-80N-0(5)40
and I-5-0(4)11
Motorist Information Signing

FROM : G. L. Green, Division Administrator

NOTED
H. S. COULTER

8/21/78
LE George is
drafting reply.

TO : H. S. Coulter, State Highway Engineer

Returned herewith are two letters dated April 10, 1978, with attachments, which request final acceptance of the subject projects. These documents are being returned for the following reasons:

1. Our June 14 memo approved an extension of the June 30 date through December 31, 1978, for the installation of logo sign material from stockpile as requested. All work under this procedure must be completed in a satisfactory manner prior to our final acceptance of the project.

2. A recent field review of the work completed to date on I-5 revealed several nonstandard conditions which must be corrected prior to our acceptance of the project. The location of these unacceptable conditions are:

   a. Fern Valley Road Interchange, Exit 24 - The existing logo which reads "Budget Gas and Diesel" must be removed from both the northbound and southbound Gas sign since the business is actually an ARCO station. A standard ARCO log would be acceptable at this location.

   b. Coburg Interchange, Exit 199 - The existing logo which reads "Truck Stop" must be removed from both the northbound and southbound Gas sign since a Truck Stop is not an appropriate business sign under the standards and because the logo is the size allowed under the revised standards while the sign board and other logos being displayed are the size specified under the original standards.

   c. North Santiam Interchange, Exit 253 - The existing "Motel 6" logo which is presently improperly mounted between the sign supports of the northbound Lodging sign must be removed or the sign revised to meet current standards.

Keasey — Richards
Jachtlond — Berg
Hopkins — RECEIVED — Inloes
Williams — JUL 25 1978 — Widmer
Johnsen — CONSTRUCTION — Gebauer
Glenn — BRANCH — Church

d. Woodburn Interchange, Exit 271 - The recently installed supplemental Food signs advertising "McDonalds" are not necessary since the facility is quite visible from the ramps. These signs are not eligible for FAI funding and should be removed for safety reasons.

e. Stafford Road Interchange, Exit 286 - The existing northbound and southbound Lodging signs must be revised as discussed in our memo of May 25. The existing "Burns Brothers" logo should be removed from these signs since Burns Brothers do not operate a motel.

In addition to the above, the following conditions were noted along I-5 which while not directly in conflict with the standards for motorist service signing are conditions or practices which should be corrected or at least avoided in the future:

1. Crater Lake Interchange, Exit 30 - The southbound Gas, Food, and Lodging signs while equipped with slip bases and hinges are mounted so low that an out-of-control vehicle would hit the bottom of the sign panel.

2. Wolfcreek Interchange, Exit 76 - The existing combination Food-Lodging signs have two identical logos (Hungry Wolf) displayed side by side.

3. Military Avenue Interchange, Exit 124 - The existing southbound Food sign is mounted too low (see comments under 1 above).

4. The Gas and Food signs which were just installed in advance of the Fargo Road Interchange, Exit 278 northbound and southbound, were not placed at or near the R/W as required under the standards. This same condition has occurred at several other locations.

A field review of the existing motorist service signing along I-80N is planned for the near future. A separate report will be submitted covering any findings immediately following completion of the review.

R. W. Amos

for G. L. Green

xc: TIC
Regions 1, 2, & 3
Contract Payments
Traffic

TRAVEL INFORMATION COUNCIL

BOX 2251 • SALEM, OREGON • 97308 • Phone (503) 378-3438

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N. P. STAROPOLI

STAFF:
JACK SOLLIS
Assistant Attorney General
and Counsel

PATTY CALCATERRA
Director

February 9, 1977

Mr. North Smith
BURNS BROTHERS
620 S.E. Union Avenue
Portland, Oregon
97214

RE: BURNS BROTHERS MOTEL logo at Stafford #286 - I-5

Dear Mr. Smith:

We have been notified by all agencies concerned that no further action will be taken to remove Burns Brothers Motel logo.

From the Travel Information Council's investigation, Burns Brothers Motel is in compliance with state criteria at this time.

We sincerely regret any inconvenience that this may have caused you and your company.

With very best regards,

Patty Calcaterra

Patty Calcaterra,
Director

PCmtf

B.C.: G.L. GREEN
E.L. SCHROEDER
L.E. GEORGE
E.E. BECKMAN

December 15, 1976

Mr. G. L. Green, Division Administrator
Federal Highway Administration
Post Office Box 300
Salem, OR 97308

Dear Mr. Green:

Motorist Services Signing
Stafford Road Interchange
10A1A/520.61

Enclosed is a letter from Patty Calcaterra concerning the Burns Brothers Motel. Our last correspondence to you on this matter indicated that we would be in contact with your office. Ms. Calcaterra's letter is self-explanatory.

I would suggest that we take no further action on removing the logo sign unless members of your staff wish to do further checking.

Very truly yours,

[illegible]
R. L. [illegible]

R. L. Seinpeder
Assistant State Highway Engineer

Enclosure

bc H. S. Coulter
E. H. Hunter
Jack L. Sollis
L. E. George
W. J. Hart
Patty Calcaterra

TJH:ds:ab

BURNS BROS. TRUCK STATIONS, INC.

(OFFICES)
Passenger & Truck Service
Downtown Portland
620 & 621 S.E. Union Ave. — Portland, Ore. 97214
S.E. Grand Avenue Between Alder & Washington
PHONE 234-7393
238-7393

15 MILES SOUTH OF PORTLAND
AT STAFFORD INTERCHANGE & I-5
Rte. 1, Box 650 — Wilsonville, Ore. 97070
PHONE 638-6811

BURNS BROS. HUSKY
80N & Troutdale Exit
10 Miles East of Portland, Oregon
PHONE 666-1588

BURNS BROS HUSKY OF BOISE
3353 Federal Way
80 N at Broadway Exit
Boise, Idaho 8370[illegible]
PHONE (208) 342-6801

October 25, 1976

Ms. Patty Calcaterra, Director
Travel Information Council
Room 501, Executive House
325 13th Street, NE.
Salem, Oregon 97301

Dear Ms. Calcaterra:

This is in answer to your October 19 letter of non-compliance to the state's motel criteria.

1) Enclosed are copies of our remittances to Washington County for the payment of a 5% motel tax which we have paid for the past five or six years.

2) We have been inspected by the Washington County Health Department and given very high ratings year after year.

3) We have had a gas, food, & lodging sign at exit #286 for the past seven years.

4) Until Nendel's opened its motel, we ran a 100% occupancy rate month in and month out. Our fill rate is now down to 60%. We have rooms available every night, and we do rent them to the motoring public.

5) Restroom facilities are available within the building.

Very truly yours,

BURNS BROS., INC.

MORTON SMITH
Vice President

MS/tm

Enclosures

1253

8

July 25, 1977

Maryland Casualty Company
Baltimore, MD 21203

Gentlemen:

On July 20, 1977, we wrote to you concerning release of final payment on Contract No. 8253 awarded to Stillwell Construction Co. for the Motorist Service Signing Project in nine Oregon counties.

The total contract amount is $206,726.70 including $5,095.14 for work performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

dda

cc Stillwell Construction Co.
13306 S.E. 30th Street
Bellevue, WA 98009

bc C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
Ed Hardt

8253

FORM LOT-TO-6-6030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon 97310

June 15, 1977

FILE:

FROM: L. E. George
Traffic Engineer

TO: W. E. Schwartz
Region 5 Engineer

SUBJECT: Logo Sign
Richland Intchge. (Exit 302)
Old Oregon Trail Hwy. (I-80N)
Baker County

The Federal Highway Administration has approved our request to install small "CAMPING" logo boards for eastbound and westbound traffic at the Richland Interchange.

The signs and supports may be taken from the stockpile that is located in the sign shop yards in Salem. The FHWA has requested that we note on the State Force Order that the material will be taken from the stockpile.

I would suggest that you have cross sections taken and send the information to Salem so the appropriate signs and supports can be selected from the stockpile. When you take the cross section for eastbound traffic you should leave room for a future "GAS-FOOD" combination logo in case it is ever needed. This means the "CAMPING" logo should be installed a minimum of 3,640 feet west of the gore point. For westbound traffic, space should be left for the full series of logo boards. This means the sign should be located a minimum of 5,640 feet east of the gore point. The attached xerox prints show the recommended sign locations.

Also will you please have someone look at the interchange in the field and find a location for supplemental logo signs. The possible locations are marked in red on the attached signing plans. The best location should be picked in the field. Please return the information for the supplemental logos to this office so we can design and order the necessary signs.

ORIGINAL SIGNED BY L. E. GEORGE

L. E. George
Traffic Engineer

RECEIVED
STATE HWY ENGR
JUN 15 '77
REFER TO
FOR
Info | Inves | R/D | D/R | Sgn | Act | File

ELS:rw
Attachments

cc: W. S. Coulter
Jack Sollis
E. E. Beckman
Richard Banton

8253

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem, Oregon 97308

DATE: May 24, 1977

In reply refer to: X 520.61

SUBJECT: Oregon Project I-80N-0(5)40
Motorist Service Signing
"CAMPING" at Exit No. 302

FROM : G. L. Green, Division Administrator

TO : Mr. H. S. Coulter, State Highway Engineer
Salem, Oregon

Mr. Schroeder's April 29 letter requested reconsideration of the requirement that the State provide follow-up signing in conjunction with the installation of the subject signing. Based on subsequent findings relative to the installation of signing on facilities outside the State's jurisdiction, this condition is withdrawn. It is recommended, however, that the business establishment be encouraged to provide such necessary follow-up signing.

for G. L. Green

6-7-77 To George - THA
Copy

NOTED
R. L. SCHROEDER

RECEIVED
JUN 7 1977
Office of
Assistant State Highway Engineer

RECEIVED
STATE HWY ENGR
JUN 7 '77
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

8253

April 29, 1977

Mr. G. L. Green, Division Administrator
Federal Highway Administration
Post Office Box 300
Salem, OR 97308

Dear Mr. Green:

Motorist Service Signing
"CAMPING" at Exit No. 302
1041A.1/520.61

Your memorandum of April 25 giving Federal-aid participation approval for camping logo signs at Richland Interchange (Exit 302) on I-80N was subject to follow-up signing. Also requested was the assurance that the local agencies would permit the installation of the follow-up signing.

To comply with your request, trailblazing would require signs both in the city of Baker as well as outside the city limits on the road under the jurisdiction of Baker County.

The State Highway Division does not have statutory powers to install signs on county roads or city streets.

The State's commitment should end with the ramp terminal signs. Those signs give both the direction of travel and the distance.

May we ask that you reconsider your approval for this installation. Based upon the discussion of the last two paragraphs I feel that trailblazers, if they are desired by the business establishment, should be negotiated between that business and the governmental agency that has jurisdiction over the road.

Very truly yours.

R. L. Schroeder
Assistant State Highway Engineer

bc H. S. Coulter
E. S. Hunter
L. E. George
Jack L. Sollis
D. E. Swan
E. E. Beckman
W. E. Schwartz
R. M. Banton
ELS:rw:ab

8253

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem, Oregon 97308

SUBJECT: Oregon Project I-80N-0(5)40
Motorist Service Signing
"CAMPING" at Exit No. 302

DATE: April 25, 1977

In reply refer to: 1041A.1/520.61

FROM : G. L. Green, Division Administrator

To : Mr. H. S. Coulter
State Highway Engineer
Salem, Oregon

Attn : ~~K~~L SCHROEDER

Based on the information contained in Mr. Schroeder's April 19 letter, Federal-aid participation in the cost of installing a "CAMPING" motorist service sign for both directions of travel in advance of the Richland Interchange (Exit No. 302) on I-80N north of Baker as well as necessary supplemental ramp signing is approved with the understanding that all necessary follow-up service signing will be installed at the same time. The State Force Order submitted for approval should include a layout showing the type and location of the follow-up signing along with assurance that the City of Baker will permit the installation of such signing.

for G. L. Green

RECEIVED
STATE HWY ENGR
APR 26 '77
REFER TO
Schroeder
FOR
Info | Invest | R/D | D/R | Sign | Act | File

4-26-77
Copy - George
Kulien

ROBERT W. STRAUB
GOVERNOR

Oregon State Highway Division

HIGHWAY BUILDING, SALEM, OREGON 97310

April 19, 1977

Mr. G. L. Green, Division Administrator
Federal Highway Administration
Post Office Box 300
Salem, OR 97308

Dear Mr. Green:

The Travel Information Council has applications for "CAMPING" logos for eastbound and westbound traffic at the Richland Interchange north of Baker.

The full series of logo signs were approved eastbound by your letter of November 21, 1972. The "CAMPING" sign was not approved at that time because it was not included in the logo series until a much later date. Ample space exists for the eastbound "CAMPING" logo as the next interchange is some four miles to the west.

No logos were approved for westbound traffic in 1972. Under the new requirements, space exists for two installations. As this interchange is strictly rural in character and future growth is unlikely, it is our intention to install the "CAMPING" logo at the most easterly location. In the event of future growth, a "GAS-FOOD" combination board could be installed at the westerly location and the "CAMPING" could be increased to a "LODGING-CAMPING" board.

All for westbound traffic

This letter is to request approval of the eastbound and westbound "CAMPING" logos at Richland Interchange (Exit No. 302) on Interstate 80 North and Federal participation in the cost of the signs and the supplemental ramp logo signs.

NOTED
ELMER SCOFIELD

RECEIVED
APR 19 1977
TRAFFIC ENGINEERING

A DIVISION OF THE DEPARTMENT OF TRANSPORTATION

All follow-up service signing, where required, will be non-participating.

May we have your approval so we can install these signs in the near future.

Very truly yours,

ENGINEER
R. L. SCHROEDER

R. L. Schroeder
Assistant State Highway Engineer

Enclosure

cc Alfred Hampson

bc H. S. Coulter
E. S. Hunter
Jack L. Sollis
L. E. George
E. E. Beckman
Richard Banton
W. E. Schwartz

ELS:ds:ab

KEY

1. Gore point.
2. Existing "KEXT RIGHT" Sign.
3. Space for future "GAS-FOOD" Logo.
4. Westbound "CAMPING" Logo
5. Existing Advance Sign.
6. Location of Campground.
7. Eastbound "CAMPING" LOGO

M.P. 302.89

M.P. 303.36

M.P. 303.45

M.P. 303.64

M.P. 303.73

BAKER

VALLEY

POWDER

OREGON

TRAIL

HIGHWAY

Ditch

Canal

Lake

Smith

82.52 2-10-77

U.S. DEPARTMENT OF TRANSPORTATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

80N-0(5)40
STATE PROJECT NO.
See below

FROM:
G. L. Green, Division Administrator
Salem, Oregon

PROGRAM NO.

ITEM NO.

COUNTY NAME
various

PROGRAM STAGE (Check) ☐ 1. ☐ 2.

TO:

Mr. H. S. Coulter
State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
FEB 14 '77
REFER TO
Rubin
FOR
Info | Ltrs | R/D | D/R | Sig | Act | File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER / STATE ROUTE NUMBER
6-4-75	12-16-76	Interstate 80N Primary 2 & 6

GENERAL LOCATION:
Motorist Service Signing I80N
(MP 82.61)

GENERAL DESCRIPTION OF WORK:
Load, haul and install sign #24 and posts

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

☐ PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY

☐ PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION

☐ OTHER (Specify)

☐ ACQUISITION OF RIGHT-OF-WAY

☐ CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS

☒ CONSTRUCTION - PROCEED ON XXXXXXXX XXXXXXXXXX FORCE ACCOUNT BASIS

REMARKS

As requested in Mr. Keasey's letter of 2-1-77 and based on the data submitted, you are authorized to proceed with the use of State Forces as being in the public interest, under State Force Order No. 8 in the amount of $290 - Federal Funds $270.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
2-10-77	E. J. Holach	Division Administrator

FORM PR-1240 (REV. 6-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

☆ U. S. GOVERNMENT PRINTING OFFICE: 1975—631-866

12-16-76.

8253

Form [illegible] 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION.
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem, Oregon 97308

DATE: January 10, 1977

In reply refer to: 1041A.1

SUBJECT: Oregon Project I-5-0(4)11 & I-80N-0(5)40
Motorist Service Signing

FROM : G. L. Green, Division Administrator

TO Mr. H. S. Coulter, State Highway Engineer
Salem, Oregon

Mr. Schroeder's December 29, 1976, letter requested an additional extension of time, through July 1, 1977, for participation in the charges involved with the installation of the logo sign material that was stockpiled under the original contract. The request is hereby approved.

G. L. Green

RECEIVED
STATE HWY ENGR
JAN 12 '77
REFER TO
Schroeder
FOR
Init. | Init. | R/D | D/R | Sign | Act | File

cy Review 1-12-77

December 29, 1976

Mr. G. L. Green, Division Administrator
Federal Highway Administration
Post Office Box 300
Salem, OR 97308

Dear Mr. Green:

On July 2, 1975, three contracts were awarded for the installation and stockpiling of logo signs on I-5 and I-80N. Prior to the award of those contracts your office agreed to participate in the charges involved with the installation of the stockpiled logo sign material for a time period of one year after the award date of the contracts.

On September 27, 1976, we requested and received an extension of time to January 1, 1977, in the continuing installation of logo sign material from the stockpile.

The original contracts showed a total of 130 logo panels to be stockpiled and on this date, we still have 77 sign panels. We are continually reducing our inventory as new logo sales are made.

In order to obtain participation in the continuing installation of logo sign material from the stockpile, it is requested that approval be granted for an extension of the January 1, 1977 date through July 1, 1977.

Very truly yours,

ORIGINAL SIGNED
R. L. SCHROEDER

R. L. Schroeder
Assistant State Highway Engineer

cy Rulien
1-12-77

bc H. S. Coulter
E. S. Hunter
L. E. George
Jack L. Sollis
V. E. Skoog
Patty Calcaterra
ELS:rj:ab

8253

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon 97310

December 14, 1976

FILE:

FROM: L. E. George
Traffic Engineer

TO: C. T. Keasey
Construction Engineer

Attention: Warren Richards

SUBJECT: Logo Sign Installation
West The Dalles Interchange
Columbia River Highway
Wasco County

The Travel Information Council has requested the installation of the stockpiled LODGING logo board for eastbound traffic at West The Dalles Interchange (Exit No. 83) on Interstate 80N.

Please make all arrangements to have the signs installed at the earliest convenient time. The sign and support posts are stockpiled at the sign shop in Salem and the footings are in place at M.P. 82.61.

As discussed with you over the phone, I am sending this order directly to you in lieu of the Region in an attempt to have the signs installed by the January 1, 1977 extension that was granted by FHWA.

L. E. George
Traffic Engineer

ELS:rj
Attachment

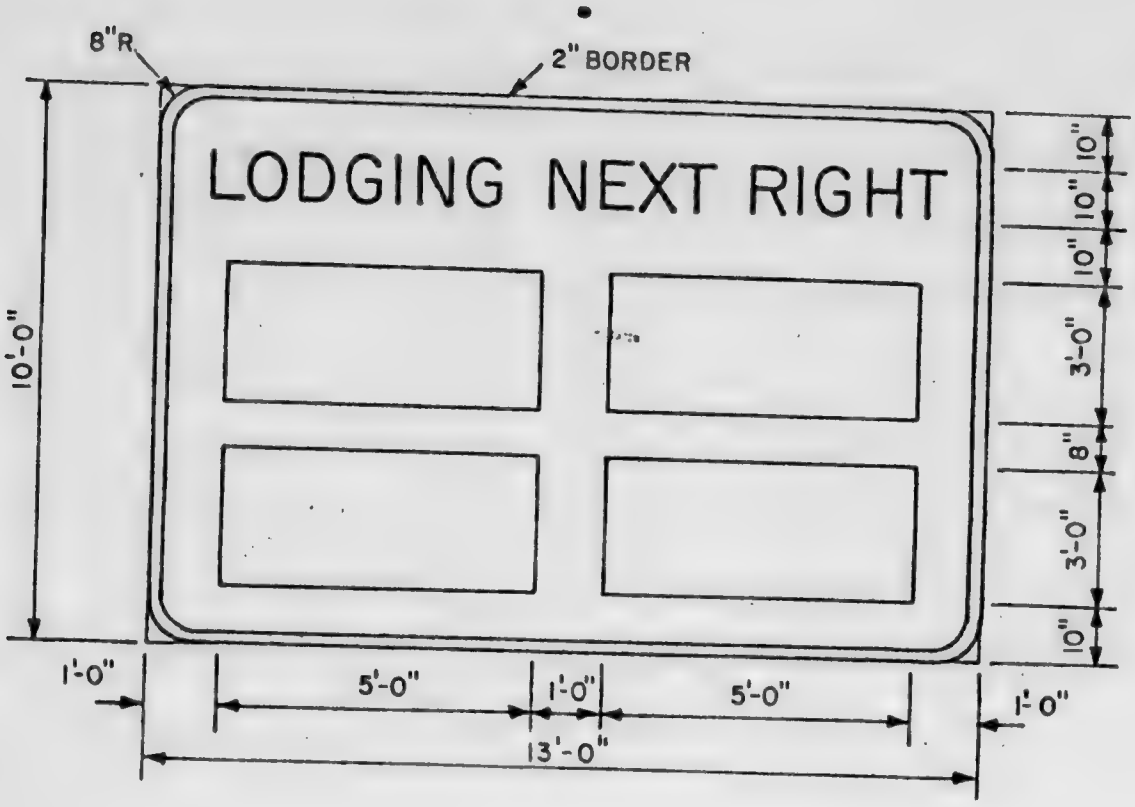
cc: H. S. Coulter
C. M. Williams
Jack Sollis
Bob Shotwell
Patty Calcaterra

RECEIVED
STATE HWY ENGR
DEC 16 '76
REFER TO
FOR
Info | Inves | R/D | R/R | Sign | Act | File

NOTED
H.S. COULTER

NOTED
R. L. SCHROEDER

RECEIVED
DEC 16 1976


8"R
2" BORDER
LODGING NEXT RIGHT
10'-0"
10"
10"
10"
3'-0"
8"
3'-0"
10"
1'-0"
5'-0"
1'-0"
5'-0"
1'-0"
13'-0"

8253 11-22-76. 80N

NARRATIVE REPORT

MOTORIST SERVICE SIGNING

CONTRACT NO'S. 8253 and 8260

These projects entailed the fabrication and erection of Motorist Service Signing on I-80N to the Idaho border and I-5 to Roseburg.

Work commenced on the I-5 Project on October 6, 1975. No unusual problems were encountered on foundation work.

Various changes in sign locations and types of signs during the course of the contracts proved to be a problem. The projects included all State Highway Regions and the preference for sign locations from one region to the other seems to vary. Also the involvement of the Travel Information Council made coordination of changes and or additions awkward. I would suggest if future statewide contracts are let that more direct lines of authority be established in order to resolve confusion from conflicting instructions.

Work did not commence on I-80N until foundation work was completed on I-5. Work commenceded on this project on January 20, 1976. Work proceeded without incident. Two major problems were encountered on sign panels and sign fabrication however.

It was discovered that the Hinac paint finish was failing. Failure appeared as spots that would flake off.

Industrial Plating the company who applied the baked finish maintained the paint failure was due to the paper used to pack and store the signs, the paper used was the backing from pressure sensitive scotchlite.

The cause for the failure was never established and subsequently many panels were removed and re-painted.

REFERRED TO
Beard W&B Reed
Cole Sample
Eriksen Watson
Hager Wolfe
Return Discuss Do File Copy Due
BY FINAL DESIGN ENGINEER

1 Versteeg ✓
3 Olson
2
A/Copy

RECEIVED
NOV 29 1976
ROAD DESIGN SECTION

Requires Reply
Requires
Receiver
Date
Return
Bring up
Other

The second problem was inadequate pop-rivets used to fasten legend and border to the panels. The rivets were too short not permitting proper bulge and consequently not holding legend and borders in place. This appears to have been the case with numerous sign projects in the past evidenced by existing signing and should be inspected more throughly in the future. Approximately half of the rivets on these two contracts were replaced.

Both contracts went past the allotted time and damages were charged.

November 5, 1976

STATEMENT OF OVERRUNS AND UNDERRUNS

MOTORIST SERVICE SIGNING

CONTRACT NO. 8260 PREFIX NO. 622-1056

F.A.P. No. I-5-0(4)11

ITEM	CONTRACT AUTHORIZATION	SEMI-FINAL	PERCENT + or -
Contract Bid Items including B.I. Adjustments (-2,666.72)	$92,403.00	$86,959.28	-5.89
Anticipated Items	6,750.00	2,047.61	-69.67
Contingencies	4,461.89	-------	
Engineering (with increase in Authorization to $20,000.00)	9,915.30	20,425.98	+2.13
Approved Expected Overrun of Project Authorization (Net)	15,850.70		
Liquidated Damages 10 Days @ $75.00		-750.00	
Price Agreement		4,800.00	
less anticipated items included above		-90.00	
Extra Work Orders		1,457.61	
less anticipated items included above		-1,457.61	
State Force Orders		9,601.64*	
less anticipated items included above		-500.00	
Total Contract w/incr.	$129,380.89	$122,494.51	-5.32
* Outstanding S.F.O. Bills		(4,268.29)	
Anticipated Underrun	$129,380.89	$126,762.80	-2.02

OVERRUNS AND UNDERRUNS

Contract No. 8260

ITEM NO.	ITEM	UNIT	CONTRACT QUANTITY	FINAL QUANTITY	PERCENT + or -
1.	Temporary Protection and Direct Traffic	Lump Sum	100 %	100 %	-----
2.	Flagman	Hour	40	1	-97.5 %
	Contract sign locations far enough off roadway to have vehicles off roadway. Temporary advanced warning signs adequate for traffic control.				
3.	Sign support footings	Lump Sum	100 %	93.78 %	- 6.22 %
	Adjustment to Bid Item - 4.292 Cu. Yds. as per Standard Specs. Hight of Sign Posts changed, therefore size of Footing requirements, do to relocation.				
4.	Breakaway Sign Posts	Lump Sum	100 %	95.25 %	- 4.75 %
	Hight and size of structural section of sign posts changed do to change in location. Adjustment to Bid Item - 1,311.09 lbs. as per Standard Specs.				
5.	Type "B" Signs in Place	Sq. Ft.	5,973.00	5,632.00	- 5.71 %
	Deletion of Sign 127 and 131 by Traffic Engineer.				

P.A. NO.	DESCRIPTION	UNIT	ORIGINAL QUANTITY	FINAL QUANTITY	PERCENT + or -
1.	Furnish & Install Metal Fence Posts	Each	25	18	- 28 %
	Fence posts were Placed at sign footings where posts and panels were not installed. During the life of the contract, additional sign Logos were sold causing installation of sign panels where fence posts were to go.				
2.	Fab. & Install 2 Sign Supports & Signs	Lump Sum	100 %	100 %	-----

E.W.O. No.	Description	Unit	ORIGINAL Quantity	FINAL QUANTITY	PERCENT + or -
1.	Install Additional Signs	$	$6,000.00	$1,457.61	-75.71

S.F.O. NO.	DESCRIPTION	UNIT	ORIGINAL QUANTITY	FINAL QUANTITY	
1.	Unload & Stockpile Matls For Logo Signs	$	$500.00		
2.	Revise 2 Logo Signs	$	$300.00	------	Outstanding Bills
3.	Fab. & Install 4 Logo Signs at Stafford Rd.	$	$6,320.00	-----	Outstanding Bills
4.	Fab. & Install 2 Logo Signs (Bear Creek and Beltline Rd.)	$	$3,760.00	-----	Outstanding Bills
5.	Remove 7 Logo Signs MP 194	$	$700.00	$992.82	Outstanding Bills
6.	10 X 13 Ft. "FOOD" Logo Sign MP 234.89	$	$2,200.00	213.33	Outstanding Bills

#8253

Con 18-5

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem, Oregon 97308

DATE: October 12, 1976

In reply refer to: 1041A.1

SUBJECT: Oregon Projects I-5-0(4)11 and I-80N-0(5)40
Motorist Service Signing Projects

FROM : G. L. Green, Division Administrator

TO : Mr. H. S. Coulter, State Highway Engineer
Salem, Oregon

For the reasons outlined in Mr. Schroeder's September 27 letter, the one year time limit originally stipulated for participation in the charges involved with the installation of stockpiled logo sign material is extended to January 1, 1977, as requested.

G. L. Green

10-14-76
Copies To:
George
Rulien
Skog

NOTED
R. L. SCHROEDER

RECEIVED
STATE HWY ENGR
OCT 15 '76
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Alt | File

RECEIVED
OCT 14 1976

September 27, 1976

Mr. G. L. Green, Division Administrator
Federal Highway Administration
Post Office Box 300
Salem, OR 97308

Dear Mr. Green:

On April 22, 1975 your office indicated you would be willing to participate in the charges involved with installation of stockpiled logo sign material and in the cost of additional funding that might become necessary. A time limit of one year from the award of the contract was stipulated.

The three contracts involved, north and south units on I-5 and I-80N, carry contract award dates of July 2, 1975, thereby precluding any prefix charges past the date of July 2, 1976.

The one-year limit imposed by your office was based on our estimate of when the stockpile logo sign material would be installed. Our estimate of one year's time has not proven to be quite accurate. The execution progress of the contract itself delayed some of the sales involved with the stockpile material. Also, expected development in some instances did not occur as rapidly as anticipated.

Since the first of July up to the present time, we have continued to request installation of the stockpile logo material. It is now our best estimate that a substantial part of the stockpile logo signs will be utilized by the end of the year.

It is requested that approval be granted for the extention of the July 2, 1976 date through to January 1, 1977, in order to obtain participation in the continuing installation of the logo sign material from the stockpile source.

Very truly yours,

ORIGINAL SIGNED
R.L. SCHROEDER

R. L. Schroeder
Assistant State Highway Engineer

bc H. S. Coulter
E. S. Hunter
V. E. Skoog
J. L. Sollis
L. E. George
Patty Calcaterra
LEG:rah:ab

8253

STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 11-1055		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Hood River & 8 others
MODIFICATION NUMBER 3	11 16 76	Project Number I-80N-0(5)40

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 245,881	$ 267,970
Federal funds	$ 226,898	$ 247,282
Other revisions		

This modification is made for the following reasons:

To include additional approved State Force work. No change in previous 100% funding under PL 94-30 in the amount of $18,983.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 16th day of November, 19 76.

Oregon State Highway Division
(Official name of Highway Agency)

By E. H. Curtis

State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
for: G. L. Green

Form FR-2A
(Rev. 10-75)

Previous editions are obsolete

58717

Oregon State Highway Division
Salem, Oregon, November 10, 1976

Federal-aid Project
No. I-80N-0(5)40

I-80N MOTORIST SERVICE SIGNING PROJECT
COLUMBIA RIVER AND OLD OREGON TRIAL HIGHWAYS
HOOD RIVER AND 8 OTHER COUNTIES

Revised Project Agreement Estimate.

Type Code Y002

Signing. (Cascade Locks Interchange-N. Ontario Interchange)
Subtotal on previous estimate of April 29, 1976. $223,529.00

Additional Approved Items

SFO 3 Fabricate and Install Sign MP 35.42 & MP 353.90	All Required	3,840.00
SFO 4 Fabricate and Install Signs MP 208.13 & MP 212.43	" "	2,700.00
SFO 5 Fabricate and Install Signs MP 354.47 & 351.90	" "	2,950.00
	Increase	9,490.00
	Subtotal	233,019.00
	Engineering	34,951.00
	Total	267,970.00

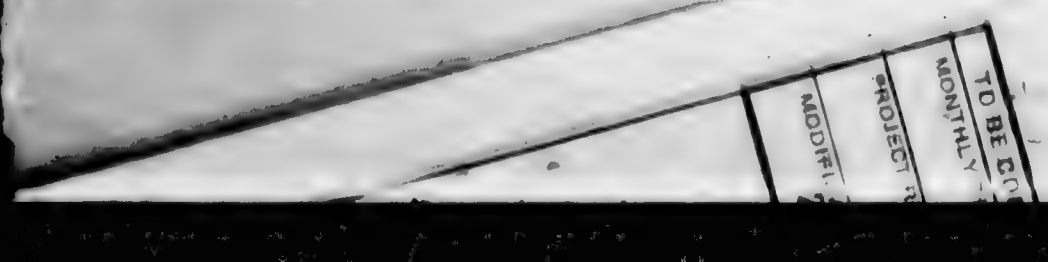
Length of Project - 0.0 mile

Federal Funds	$ 247,282.00
State Funds	20,688.00
Total	267,970.00

Group 1 - 100%

Contract No. 8253
Prefix 614-1083

Baker Co.	7%	Sherman Co.	7%
Gilliam Co.	5%	Umatilla Co.	23%
Hood River Co.	18%	Union Co	15%
Malheur Co.	2%	Wasco Co.	18%
Morrow Co.	5%		



8253

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 5-179		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Hood River & 8 Others
MODIFICATION NUMBER 2	5-376 STATE COPY	Project Number I-80N-0(5)40

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 245,881	$ 245,881
Federal funds	$ 226,898	$ 245,881
Other revisions		

This modification is made for the following reasons:
The Project Agreement executed July 17, 1975 is modified to increase Federal-aid participation to 100 percent in accordance with PL 94-30. Such additional Federal Funds requested total $ 18,983."

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 13th day of May, 1976.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By C. J. Hunter

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By G. L. Green
(Division Administrator)
For: G. L. Green

Form PR-2A (Rev. 10-75)

Previous editions are obsolete

GPO 895-313

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	State Oregon
MONTHLY TRANSACTION NUMBER 5-51		County Hood River & 8 Others
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT 5 , 76	Project Number I-80N-0(5)40
MODIFICATION NUMBER 1		

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17 , 19 75 , is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 200,680	$ 245,881
Federal funds	$ 185,187	$ 226,898
Other revisions		

This modification is made for the following reasons:

To include approved additional work.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 11th day of May , 19 76 .

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By C J Hunter

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
For: G. L. Green

GPO 895-313

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

Oregon State Highway Division
Salem, Oregon, April 29, 1976

Federal-Aid Project
No. I-80N-0(5)40

I-80N Motor Service Signing Project
Columbia River and Old Oregon Trail Highways
Hood River and 8 Other Counties

Revised Project Agreement Estimate.

Type Code Y002
Signing (Cascade Locks Int.-N. Ontario Int.)

Subtotal of previous estimate of July 9, 1975			$182,437.00
Install Additional Signs (EMO #1)	All Required		$ 20,000.00
Handling and Storing Materials (SFO #1)	All Required		1,000.00
Mark Signs Footing Locations (PA #1)	63 only	5.00	315.00
Fabricate, Install and Move Signs (Ontario)(PA #2)	All Required		2,231.00
Fabricate and Install Signs (Mission and N. Powder)(PA #2)	All Required		10,636.00
Fabricate and Install Signs (Mosier and Union)(PA #3)	All Required		6,910.00
			$ 41,092.00
	Subtotal		$223,529.00
	Engineering		22,352.00
	Total		$245,881.00

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Signing	$245,881.00	$226,898.00	$ 18,983.00

Group 1 100%
Contract No. 8253
Prefix 614-1083

Baker County	7%
Gilliam County	5%
Hood River County	18%
Malheur County	2%
Morrow County	5%
Sherman County	7%
Umatilla County	23%
Union County	15%
Wasco County	18%
	100%

3153 STATE COPY

Form Approved; O.M.B. No. 04-R2069

TO BE COMPLETED BY FHWA MONTHLY TRANSACTION NO. 7-46	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION 1 17 75 **FEDERAL-AID PROJECT AGREEMENT**	STATE Oregon COUNTY Klad River and eight other counties PROJECT NO. I-80N-0(5)40

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

I-80N, Cascade Locks Intchge.-N. Ontario Intchge.

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	6/4/75	0.00
OTHER *(Specify)*		

FUNDS Pro Rata 92.28%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 200,680	$ 185,187

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E. J. Hunter
Asst. State Highway Engineer
(Title)

By _____
(Title)

By _____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
G. L. Green *(Division Engineer)*

Date executed by Division Engineer _____

Form PR-2 (Rev. 9-74) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 301(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 9, 1975

Federal Aid Project
No. I-80N-0(5)40

I-80N Motor Service Signing Project

Columbia R. & Old Ore. Trail Highways

Hood River and 8 Other Counties

Project agreement estimate.

Type Code Y002
Signing (Cascade Locks Int. - N. Ontario Int.)

Temporary Protection and Direction of Traffic	All Required		$ 1,000.00
Flagmen	40 hours	10.00	400.00
Sign Support Footings	All Required		44,110.00
Breakaway Sign Posts	All Required		58,017.00
Type "B" Signs in Place	12,140 sq.ft.	6.50	78,910.00
	Subtotal		$ 182,437.00
	Engineering		18,243.00
	Total		$ 200,680.00

Length of Project 0.00 mile

Retained in Program Status

Handling and Storing Materials (S.F.)	All Required	$ 1,000.00
Mark Sign Footing Locations (E.W.)	All Required	400.00
Install Additionas Signs (E.W.)	All Required	20,000.00
	Subtotal	$ 21,400.00
	Engineering	2,140.00
	Total	$ 23,540.00

Summary of Funds

Description	Total Cost	Federal Funds	State Funds
Signing	$200,680.00	$185,187.00	$15,493.00
Retained in Program	23,540.00	21,722.00	1,818.00
	$224,220.00	$206,909.00	$17,311.00

Group 1 100%

Contract No. 8253

Prefix No. 614-~~1803~~ 1083

Baker Co.	7%
Gilliam Co.	5%
Hood River Co.	18%
Malheur Co.	2%
Morrow Co.	5%
Sherman Co.	7%
Umatilla Co.	23%
Union Co.	15%
Wasco Co.	18%
	100%

8253

STATE OF OREGON

INTEROFFICE MEMO

TO: C. T. Keasey
Construction Engineer

DATE: October 27, 1976

FROM: R. D. Church
Contract Payments Engineer

SUBJECT: Request Contract Acceptance

Contract 8253, Work Completed 10-1-76

Project Motorist Service Signing Project

Highway Columbia R. & Old Oregon Trail

Count(y)(ies) 9 counties

We request you return a signed copy of this letter indicating acceptance or list conditions that would prevent your acceptance of the contract work.

Acceptance Date _____

Conditions not acceptable:

Construction Engineer

RDC:eb
cc: Don Harwell
J. R. Oakes
Virgil Boyd
John Jenkins
Don Trout

8253

FORM 81-734-3001

OREGON STATE HIGHWAY DIVISION

FIELD ENGINEER'S WEEKLY REPORT

7 FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE SECTION

NAME OF JOB: Motorist Service Signing	SECTION: Motorist Service Signing	WEEK ENDING: October 16, 1976
CONTRACTOR: Stillwell Construction Co.	HIGHWAY: Columbia River & Old Oregon Trial (I-80N)	SECTION PREFIX: 614-1083
DATE OF CONTRACT: July 2, 1975	KIND OF WORK: Logo Signs	COUNTY: Nine Counties
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 1 SUPERVISION: 1	CONTRACT NUMBER: 8253	FEDERAL AID PROJECT NUMBER: I-80N-0(5)40
PROJECT AUTHORIZATION: $266,982.56	DATE WORK STARTED: January 20, 1976	ESTIMATED COMPLETION DATE: October 23, 1976
EXCLUSIVE OF ENGINEERING: $223,582.26	SPECIFIED WORK DAYS	WORK DAYS USED
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $227,388.00	SPECIFIED CALENDAR DAYS 266**	CALENDAR DAYS USED 301
ESTIMATED PERCENT OVERRUN XXXXXX 1.7 %	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED 113.2
	ENGINEERING AUTHORIZATION $42,500.00	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 99+
	ENGINEERING COST TO DATE $41,000.00	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 99+
	PERCENT OF AUTHORIZATION 96.47 %	DATE PROJECT WAS COMPLETED:

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD
DOES NOT APPLY TO MOTORIST SERVICE SIGNING PROJECT					

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT	DOES NOT APPLY TO THIS PROJECT				
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

Misc. tools.

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

		WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	10	Varies	0		** See letter of September 29, 1976, to contractor giving an 66 days extension.
MONDAY	11		0		
TUESDAY	12		0		
WEDNESDAY	13		0		
THURSDAY	14		0		
FRIDAY	15		0		
SATURDAY	16		0		

RECEIVED
OCT 1 1976
Jackmond
Harwood
Johnson
Walker

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK	
SUNDAY 10	No Activity.
11 MONDAY	Comments apply to contract No's. 8260, 8253 and 8252 Worked on the replacement of defective Hinac panels in the Salem Stockpile all week.
12 TUESDAY	
13 WEDNESDAY	
14 THURSDAY	
15 FRIDAY	
16 SATURDAY	

REMARKS

STATUS: Jobs complete except for replacement of defective Hinac panels.

SIGNED _____ LOCATION 1101 North Russell Street
Portland, Oregon 97227

Robert E. Shotwell, Resident Engineer

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP*F216

.8253

15

September 29, 1976

Stillwell Construction Company
13306 S. E. 30th Street
P. O. Box 186
Bellevue, Washington 98009

Gentlemen:

We have reviewed your request for an extension of time on Contract No. 8253 for work on Motorist Service Signing Project, I-80N, in nine counties.

Careful consideration was given to the reasons you submitted. In light of the available facts, an extension of 66 days is granted.

This is for 63 days' time counted after March 25, 1976 when major work remaining was on late change orders (Price Agreements 2 and 3 and Extra Work Order No. 1) and 3 days additional for work performed prior to March 25 on Extra Work Order No. 1.

Very truly yours,

for E. S. Hunter
Deputy State Highway Engineer

bc H. S. Coulter
C. T. Keasey
Robert Church
Ed Hardt

JAB:fr ja

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

September 28, 1976

FILE: CON 5 #8253

FROM: John A. Bond
Construction Administration Engineer

TO: E. S. Hunter
Deputy State Highway Engineer

SUBJECT: Motorist Service Signing
Project, I-80N
Contract No. 8253
Request for Time Extension

Stillwell Construction Company requests a 101 day extension on this project for alleged delay in approval of shop drawings and arrangement for out of State inspection of fabricated work, for change orders and for the time counted after March 25, 1976. Some pertinent dates on this contract are:

Bids opened	6-26-75	
Contract sent	7-21-75	
Day count started	8- 1-75	(200 calendar days allowed)
Field work started	1-20-76	(173 days, or 86% of time elapsed)
200 days allowed expired	2-16-76	
Date contractor requests time count to stop	3-25-76	(Project 88% complete)
Stop work order effective	5-27-76	(Not resumed to date) 101 days liquidated damages accrued at $100/day.

Two significant price agreements were added to the project quite late. P.A. 2 in the amount of $12,636 covers additional signing at Ontario and was approved February 24 (note that the contract time had elapsed on February 16). P.A. 3 in the amount of $6,910 added signs at Mosier and Union and was approved even later, on March 31.

The Resident Engineer recommends extension as requested by the contractor for the time counted after March 25, or 63 days. I would concur that the price agreement work which was known to the contractor by then probably controlled his schedule and completion thereafter. There is only one extra work order on the project and it is for installing the stockpile signs provided under the contract. We concur in the Resident Engineer's recommendation for 3 additional days for this extra work performed prior to March 25.

In view of the contractor's very late start of work on this project, we do not believe his other reason concerning approval of shop drawings is valid. It is not apparent that this caused the late completion of the contract work. The contractor's statements in this respect seem to relate more to another project (Contract 8260) which he covered in the same request letter.

A 66 day extension will leave 35 days liquidated damages in effect at $100 per day. I would expect the project to be completed and a completion date established without counting any more time. This is an Interstate project. The recommended extension could be granted participating under delegated authority. Rough draft letter to the contractor is attached.

JAB:fr

Att.

cc: Robert Church

RECEIVED
STATE HWY ENGR
SEP 28 '76
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

OREGON STATE HIGHWAY COMMISSION

Engineers Recommendation Regarding Contractors Request

for

Increase in Number of Workdays

to

Complete Construction Contract

Investigation has been completed regarding the request (see reverse side) for an increase in the number of workdays within which to complete, without assessment of liquidated damages, the following project:

Contract No. 8253 Contractor Stillwell Construction Co.

Highway Columbia River & Old Oregon Trail (I-80N)

Section Motorist Service Signing

Kind of Work Signing

It is recommended that the request for increase in the number of workdays within which to complete said contract be ~~DENIED~~ or GRANTED. The reasons for such recommendation are as follows:

Recommend 66 day extension of contract time because of two late price agreements (P.A. 2 and P.A. 3) and E.W.O. 1.

(63 days for time counted after March 25, and
3 additional days for extra work order 1
performed prior to March 25, 1976.)

Recommended for Approval:

Division Engineer

Construction Engineer or ~~Bridge Engineer~~

for

Acting Asst. State Highway Engineer

Contract No.	8253
Project designation	I-80N-0(5)40 (State-Federal)
Date awarded	July 2, 1975
Work started	January 20, 1976
Per cent completed	100 * (Date)
No. of Workdays Allowed	200 CD
No. of Workdays Used	301
No. of Added Workdays Requested	101

State Printing 37020

* See accom. letter

E--330 (Rev.)—5M—5-60

OREGON STATE HIGHWAY COMMISSION

Contractors Request
for
Increase in Number of Workdays
to
Complete Construction Contract

Oregon State Highway Commission
Salem, Oregon

Date 7/27, 19 76

Gentlemen:

We, the undersigned, respectfully request an increase in the number of workdays from ..... days to 101 days, within which to complete our Contract No. 8253, without the assessment of liquidated damages. The said contract is described as follows:

The dates of the workdays during which prosecution of the work was actually prevented and the conditions or causes which actually prevented the prosecution of work on said dates were as follows:

SEE ATTACHED LETTER

Respectfully submitted,

STILLWELLCONSTRUCTION CO.
Contractor

By W E French

CONSENT OF SURETY

Date 7/27/, 19 76

We, MARYLAND CASUALTY COMPANY

....., as

surety on the bond guaranteeing the completion of the contract above-named and listed, hereby join in and consent to said request for an increase in the number of workdays, and hereby agree to remain fully bound as surety in all respects as if the number of workdays remained as stipulated in the original agreement.

Darrell D. Thompson
Attorney-in-fact

Darrell D. Thompson (SEAL)

.....
Resident Agent

July 26, 1976

Mr. Robert Shotwell, P. E.
Oregon State Highway Department
1101 North Russell Street
Portland, OR 97227

RE: Contract #8253
Contract #8260

Dear Mr. Shotwell:

For sometime now, we have been discussing and resolving the various delays associated with these projects. The problems have been numerous but have been or are being resolved. We are requesting that the calendar day counts be rolled back as follows:

Contract #8253 - Day count be stopped as of 3/25/76.
Contract #8260 - Day count be stopped as of 2/14/75.

This would result in excess calendar days of 38 days on Contract 8253; 23 days on Contract 8260. These are the Dates on which the projects were substantially completed by us. Only a few extra work items or force account items remained after this time. Since the projects were substantially complete as of the above dates, we do not feel penalties should be assessed for the time since those dates as this time has been spent performing extra work orders, force account work and resolving the rivet and hinac problems. Most of the time has been spend on the rivet and hinac problems. Here again, we do not feel we should be assessed damages for this problem. While the signs were admittedly defective, they were functional and did operate and did serve their intended purpose. Had these deficiencies not been discovered at the time they were, but rather four or five months later, all of this work would have fallen under warranty work and certainly damages would not have been assessed.

The signs wererinspected and accepted one by one at the fabricator's plant by the State of Oregon and both our supplier, Traffic Control Sign Co., and your own State inspectors found nothing wrong with the signs at that time. The possibility exists that a case could be made where this defective work would be covered under the warranty work section of the specifications. We have never pressed this case but rather have chosen

to resolve the long and expensive problem ourselves.

In view of the above, we again request that the damages not be assessed for this period of time. We further request time extensions from the date of substantial completeon of each project back to the limit of calendar days allowed under the contract.

As we stated in the preconstruction conference on July 21, 1975, we intended to start work on August 15, 1976. Shop drawings for the steel posts were submitted at that meeting and we asked whether the State of California or the State of Oregon would inspect the posts. Numerous questions remained over the exact quantities of posts required and over the post lengths. Our post supplier, Altius Corporation, finally received approved shop drawings on August 22, 1975, and on August 13, 1975, we were notified that the State of California would do the inspection. It took our supplier and the State of California another three weeks to work out all the technicalities before the State of California gave them authority to proceed. We then fabricated stubs and received them on the jobsite and began installing them on September 29, 1975. This was 45 Days behind our intended schedule and due primarily to delays in drawing approval and inspection prodedures. During the course of the contracts, several change orders were completed along with a great deal of force account work. We continually asked for time extensions as these were done.

I would also like to point out that thwards the end of the projects, we broke our sequence of installing posts and signs so as to accommodate the State of Oregon by installing those signs determined to be most necessary. This caused more travel and less efficiency and should certainly be considered in this request.

The day counts allowed on these projects were exceedingly short and allowed for no slippage on anyone's part. We pursued these jobs with full diligence and when the last of the rivet and hinac panel is repaired we will have given the State of Oregon a first class product in every respect.

In summary, we are therefore requesting time extensions and/or rollbacks of calendar day counts sufficient to cover these projects without the assessment of liquidated damages or other charges. Please contact us if we can supply any additional information.

Very truly yours,

STILLWELL CONSTRUCTION CO.

W. E. French
Operations Manager

ss

cc Keith Martin

8253-

BEFORE THE PUBLIC CONTRACT REVIEW BOARD

NOTED
E. S. HUNTER

OF THE STATE OF OREGON

In the matter of the exemption of Oregon State Department of Transportation for contract amendment for Contract No. 8253	))))	CERTIFICATE OF ADOPTION OF TEMPORARY RULE

The Board having found that an exemption from the requirements of competitive bidding on behalf of the Oregon State Department of Transportation for certain additional work over the 10 percent limitation as set forth in OAR 10.150(b) for Motorist Service Signing (1-80N), Contract No. 8253, will not encourage favoritism in the awarding of public contracts or substantially diminish competition for public contracts and that the award of contracts pursuant to the exemption will result in substantial cost savings to the Oregon Department of Transportation. The Board having further found that the best interests of the Department and the public will be served by the adoption of the exemption as a Temporary Rule, the Board hereby adopts the following exemption as a Temporary Rule pursuant to ORS 183.335(5):

The Oregon Department of Transportation is exempt from the 10 percent limitation of OAR 10.150(b) for Motorist Service Signing (1-80N), Contract No. 8253.

Dated: August 30, 1976.

PUBLIC CONTRACT REVIEW BOARD

Al J. Laue, Counsel

RECEIVED
STATE HWY ENGR
SEP 1 '76
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator of Highways

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

June 17, 1976

Public Contract Review Board
100 State Office Building
Salem, OR 97310

Gentlemen:

Motorist Service Signing (I-80N)
Contract No. 8253

In accordance with Rule 10.140, application is hereby made on behalf of the Oregon Department of Transportation for an exemption of certain additional work under this contract which exceeds the 10 percent limitation of Rule 10.130(b).

1. The subject contract covers the construction of footings and providing signs and installing part of them at 96 locations on Interstate 80N from Cascade Locks to the Idaho line. These are signboards for displaying logo information on gas, food, lodging and camping, which is administered by the Travel Information Council.

2. The contract amount is $182,437, of which $102,127, or 56 percent of the contract amount, is for two lump sum contract items covering the sign support footings and the breakaway sign posts on which the signs are mounted. Bids were opened on the project in June, 1975 and since that time, the Travel Information Council sold additional logo signing locations not covered by the contract. Two price agreements in the total amount of $19,546 were negotiated with the contractor for additional signing at eight locations and these price agreements amount to 10.7 percent of the original contract amount.

3. This additional work was within the limits of the regular contract work. Due to the lump sum nature of the original contract pricing on a majority of the work involved, the addition of only a few sign locations had to be accomplished by a change

order, rather than extension of bid items. There would be no saving, and probably a significant increase in the total cost, if this comparatively small package of work were to be performed by a separate call for bids. Prompt installation of the signing was of benefit to the logo advertisers and to the public.

4. Since this and other additional work accumulates to an overrun of our total project authorization exceeding the allowable 5 percent under our departmental regulations, a request for additional funding authorization is being made to the Transportation Commission. A copy of this request and the forms summarizing the financial status of the project are attached for your information. The Federal Highway Administration has indicated approval of this added work and participation in the construction costs.

We respectfully request your consent to exceed the 10 percent limitation.

Very truly yours,

For E. S. Hunter
Deputy State Highway Engineer

Attachments

bc H. S. Coulter
R. L. Schroeder
C. T. Keasey
L. W. Rulien
V. E. Skoog
Ed Hardt

JAB:fr ja

8253

Form 81-734-3030

Head
Richmond AUG 17 1976 Gem
Heywood Berg

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE
Region 1 - Milwaukie
August 16, 1976

CONSTRUCTION FILE: CON 5
SECTION

FROM: MARION CRAFT
Region Construction Engineer

TO: CARROLL T. KEASEY
Construction Engineer

SUBJECT: MOTORIST SERVICE SIGNING PROJECT
I-80N, Contract No. 8253
I-5 North Unit, Contract No. 8260

Attached is a request for extension of time on these two projects, the contractor's letter of explanation and Bob Shotwell's analysis of the time extension request. I don't have any information or any insight into the problems of these contracts that would lead me to recommend anything any different than what Shotwell has recommended, and therefore would recommend that Shotwell's recommendation be followed.

The contractor has asked for increasing the number of work days from 200 to 301 days, or a 101 day time extension on the I-80N contract, and Bob has recommended 66 days be granted. On the I-5 contract the contractor has asked for an additional 34 days, and Bob has recommended 17 additional days be granted.

Summarizing our recommendation then, would be to grant 66 days to the I-80N contract, contract number 8253. Sixty-three of these days would be due to giving the time back to the contractor that was charged after all the work was essentially done, or all the time past March 25, 1976. An additional 3 days would be given to the force account work prior to that date.

On the I-5 contract, contract number 8260, our recommendation is for 17 days. Nine of these days is due to State responsibility and delay in verifying post lengths, shop drawings and so forth, four days due to installing signs on Extra Work Order No. 1, and 4 days due to signs which were added to the contract by price agreement.

MC/lms

Form 01.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Portland, Oregon 97227

August 10, 1976

TE UE SO ENV

RECEIVED AUG 12 1976 REGION 1

FILE

RSM RBI LDC

FROM: Robert E. Shotwell
Resident Engineer

SUBJECT: Motorist Service Signing
I-5 (N. Unit)
Contract No. 8260

TO: Ed Hardt
Regional Engineer

Attached is a Contractors request for an extension of time for the above project, with their letter of explanation.

Stillwell is asking that no damages be assessed, by increasing the number of workdays from 175 to 209 (34 days).

We agree with the "roll-back" date in the letter as contract work was substantially complete on this date. (Feb. 14, 1976)

Most of Stillwell's request is in the 5th paragraph. Some of the dates are in error.

The shop drawings were given to us at the pre-construction conference, July 12, 1975 (Friday). We verified, corrected, approved, and returned these drawings Aug. 12, or 33 days later. Stillwell maintains that they did not gain the extension until August 22, (11 days later).

We feel that a reasonable time to verify post lengths and approve shop drawings would be about two weeks, but getting this information took longer because of the distances involved.

23
-14
9

All of this amounts to about 9 days delay. It is presumptuous on Stillwells' part to say it to have approved shop drawings, materials fabricated, inspected and start installation in 4 weeks between July 10 (Friday) and August 15, 1975 (Friday).

As far as California and the fabricator, Alpine, taking 3 weeks to work out inspection problems, Ed Hart told us that this is reasonable.

4 days were used installing signs on E.W.O. # 1 (which was an anticipated item).

2 signs were added to the contract on a Price Agreement. 6 posts were revised. This amounts to about 4 days field work.

To summarize, about 17 days delay may have been the states responsibility.

However, Stillwell did not pursue this job with "Full diligence" as reflected in his monthly performance.

Field work started Oct. 6, 1975:

They worked 8 days in October,

17 days in November

4 days in December

4 days in January

7 days in February.

Based on our investigation of this Project, we recommend 17 days additional time be granted.

All work is complete except for replacing sign panels which have had hinge failure. This is still in progress.

RES:def

XC: files.

verify past lengths 9
E.W.O. 1 4
P.A. 2 4
17
Last time talked 11
28
Before the E.W.O. 4
24

July 26, 1976

Mr. Robert Shotwell, P. E.
Oregon State Highway Department
1101 North Russell Street
Portland, OR 97227

RE: Contract #8253
Contract #8260 —

Dear Mr. Shotwell:

For sometime now, we have been discussing and resolving the various delays associated with these projects. The problems have been numerous but have been or are being resolved. We are requesting that the calendar day counts be rolled back as follows:

Contract #8253 - Day count be stopped as of 3/25/76.
Contract #8260 - Day count be stopped as of 2/14/75.

This would result in excess calendar days of 38 days on Contract 8253; 23 days on Contract 8260. These are the Dates on which the projects were substantially completed by us. Only a few extra work items or force account items remained after this time. Since the projects were substantially complete as of the above dates, we do not feel penalties should be assessed for the time since those dates as this time has been spent performing extra work orders, force account work and resolving the rivet and hinac problems. Most of the time has been spend on the rivet and hinac problems. Here again, we do not feel we should be assessed damages for this problem. While the signs were admittedly defective, they were functional add did operate and did serve their intended purpose. Had these deficiencies not been discovered at the time they were, but rather four or five months later, all of this work would have fallen under warranty work and certainly damages would not have been assessed.

The signs wererinspected and accepted one by one at the fabricator's plant by the State of Oregon and both our supplier, Traffic Control Sign Co., and your own State inspectors found nothing wrong with the signs at that time. The possibility exists that a case could be made where this defective work would be covered under the warranty work section 66 the specifications. We have never pressed this case but rather have chosen

to resolve the long and expensive problem ourselves.

In view of the above, we again request that the damages not be assessed for this period of time. We further request time extensions from the date of substantial completion of each project back to the limit of calendar days allowed under the contract.

As we stated in the preconstruction conference on July 21, 1975, we intended to start work on August 15, 1975. Shop drawings for the steel posts were submitted at that meeting and we asked whether the State of California or the State of Oregon would inspect the posts. Numerous questions remained over the exact quantities of posts required and over the post lengths. Our post supplier, Altius Corporation, finally received approved shop drawings on August 22, 1975, and on August 18, 1975, we were notified that the State of California would do the inspection. It took our supplier and the State of California another three weeks to work out all the technicalities before the State of California gave them authority to proceed. We then fabricated stubs and received them on the jobsite and began installing them on September 29, 1975. This was 45 Days behind our intended schedule and due primarily to delays in drawing approval and inspection prodedures. During the course of the contracts, several change orders were completed along with a great deal of force account work. We continually asked for time extensions as these were done.

I would also like to point out that towards the end of the projects, we broke our sequence of installing posts and signs so as to accommodate the State of Oregon by installing those signs determined to be most necessary. This caused more travel and less efficiency and should certainly be considered in this request.

The day counts allowed on these projects were exceedingly short and allowed for no slippage on anyone's part. We pursued these jobs with full diligence and when the last of the rivet and hinac panel is repaired we will have given the State of Oregon a first class product in every respect.

In summary, we are therefore requesting time extensions and/or roll-backs of calendar day counts sufficient to cover these projects without the assessment of liquidated damages or other charges. Please contact us if we can supply any additional information.

Very truly yours,

STILLWELL CONSTRUCTION CO.

W. E. French
Operations Manager

SS

cc Keith Martin

8013

LETTER OF APPROVAL AND/OR AUTHORIZATION

I-0(5)40
STATE PROJECT NO.
Motorist Service Signing

FROM:
G. L. Green, Division Administrator
Salem, Oregon

PROGRAM NO.

ITEM NO.
I-830

COUNTY NAME
Various

PROGRAM STAGE (Check)
☐ 1. ☐ 2.

TO:

Mr. H. S. Coulter
State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
AUG 6 '76
REFER TO
Public
FOR
Info | Invest | R/D | O/R | Sign | Act | File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
6-4-75	6-2-76	Interstate Route 80N	Primary Routes 2 & 6

GENERAL LOCATION:
Mile Post 212.43 Westbound - Mile Post 208.13 Eastbound.

GENERAL DESCRIPTION OF WORK:
Fabricate and install two camping logo signs on standard steel breakaway posts.

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

PRELIMINARY ENGINEERING TO DETERMINE
☐ LOCATION ONLY
PRELIMINARY ENGINEERING FOR SURVEY AND PLAN
☐ PREPARATION

☐ OTHER (Specify)

☐ ACQUISITION OF RIGHT-OF-WAY
CONSTRUCTION - ADVERTISE FOR RECEIPT
☐ OF BIDS

☒ CONSTRUCTION - PROCEED ON ~~AN ASSIGNED~~ PRISC AND/OR FORCE ACCOUNT BASIS

REMARKS

As requested in Mr. Keasey's letter of 7-22-76 and based on the data submitted, you are authorized to proceed with the use of State Forces as being in the public interest, under State Force Order No. 4 in the amount of $2,700 - Federal Funds $2,490.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
8-3-76	E. L. Green	Division Administrator

FORM PR-1240 (REV. 6-72) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

8053 6-24-76

LETTER OF APPROVAL AND/OR AUTHORIZATION

ON-0(5)40

STATE PROJECT NO.
Motorist Service Signing

FROM:
G. L. Green, Division Administrator
Salem, Oregon

PROGRAM NO.

COUNTY NAME
various

ITEM NO.
I-830

PROGRAM STAGE (Check) ☐ 1. ☐ 2.

TO:

Mr. H. Scott Coulter
Administrator and State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENG
JUL 1 '76
REFER TO Greiner
FOR
Info | Init | R/W | D/R | Sign | Act | File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER / STATE ROUTE NUMBER
6-4-75	6-9-76	Interstate Route 80N / Primary Routes 2 & 6

GENERAL LOCATION:

Mile post 354.47 west bound - m.p. 351.90 east bound.

GENERAL DESCRIPTION OF WORK:

Fabricate and install 2 Lodging Logo Signs

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

PRELIMINARY ENGINEERING TO DETERMINE
- ☐ LOCATION ONLY

PRELIMINARY ENGINEERING FOR SURVEY AND PLAN
- ☐ PREPARATION

- ☐ OTHER (Specify)

- ☐ ACQUISITION OF RIGHT-OF-WAY

CONSTRUCTION - ADVERTISE FOR RECEIPT
- ☐ OF BIDS

- ☒ CONSTRUCTION - PROCEED ON ~~XXXXXXXX~~ ~~XXXXXXXXXXX~~ FORCE ACCOUNT BASIS

REMARKS

As requested in Mr. Keasey's letter of 6-10-76 and based on the data submitted, you are authorized to proceed with the use of State Forces as being in the public interest, under State Force Order No. 5 at a total estimated cost of $2,950 - Federal Funds $2,700.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
6-24-76	E. J. Wolack	Division Administrator

FORM PR-1240 (REV. 6-68) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

JAB:fr ia

bc C. W. Head
R. A. Burco
F. B. Klaboe
E. S. Hunter
R. L. Schroeder
E. L. Hardt
C. T. Keasey
L. W. Rulien
V. E. Skoog
George Bell

DATE: June 17, 1976

TO: Oregon Transportation Commission

FROM:

H. S. Coulter
State Highway Engineer

SUBJECT: Request for Increase in Project Authorization
Motorist Service Signing (I-80N)
Contract No. 8253

An overrun of $34,727.56, or 15 percent, is now apparent on this project. The contract work is virtually completed except for corrective work which is being investigated and now believed to be the contractor's responsibility with no additional compensation. This project covered the installation of footings for 96 signs (gas, food, lodging, camping) on Interstate 80 from Cascade Locks to the Idaho line. Stillwell Construction Company is the contractor.

The overrun is due to the addition of 13 signs by price agreements and state force orders and an overrun in engineering. Bids were opened on this project in June 1975, and since then the Travel Information Council sold additional Logo signing locations not covered by the contract. All the added signing has been participating by the Federal Highway Administration, and the State's share of the project cost is reimbursed by the Travel Information Council.

This engineering overrun is aggravated by the material compliance problems that have arisen. Some of the signing was fabricated with rivets which were too short and some of the hinac finish on the signs is apparently faulty. These problems are being pursued with the contractor. Due to the distances involved with some of the signs stockpiled in Salem, the project work extending to the Idaho line, and the Resident Engineer located in Portland, the engineering cost compared to the value of the work performed is very high.

Your approval is requested for an increase of $34,727.56 to a new total authorization of $266,082.56. This matter will be on the agenda for your consideration at the June 29 meeting.

Form 2-372 (Rev. 12-70)

OREGON STATE HIGHWAY DIVISION

APPROVED
STATE HIGHWAY ENGINEER
DATE: 6-29-76

Expected Overrun of Project Authorization

Project MOTORIST SERVICE SIGNING PROJECT Date May 25, 1976

Highway Columbia River & Old Oregon Trail (I-80N) Contract No. 8253

County Nine Counties Kind of Work Logo Signs Contractor Stillwell Construction Co.

	Authorized	Estimated
Contract Amount	$182,437.00	$185,931.56
Anticipated Items	21,400.00	9,315.00
Contingency (4½%)	9,172.67	28,336.00
Engineering	18,345.33	42,500.00
Credits		
PROJECT COST	$231,355.00	$266,082.56

NET INCREASE $ 34,727.56 OR 15.01 %

MAJOR OVERRUNS AND UNDERRUNS (Describe Briefly)

(Indicate whether contract (C), anticipated (A), or unanticipated (U). (List all unanticipated items)	Expected Amount	Net Change
(U) Liquidated Damages (98 Days)	-9,800.00	-9,800.00
(U) Credit for Time Extension (Liquidated Damages)	+9,800.00	+9,800.00
(C) Ajustments to B.I. 3, 4 Overrun to B.I. 5	3,494.56	+3,494.56
(A) EWO # 1 Install additional signs	8,000.00	-12,000.00
(A) Anticipated Not Used	85.00	-85.00
(U) P.A. # 2 Add Signs and Supports	12,636.00	+12,636.00
(U) P.A. # 3 Add Signs and Supports	6,910.00	+6,910.00
(U) S.F.O. # 2 Install a "Freeway Entrance" Sign	250.00	+250.00
(U) S.F.O. # 3 Add Signs and Supports	3,840.00	+3,840.00
(U) S.F.O. # 4 Add Signs and Supports	1,350.00	+1,350.00
(U) S.F.O. # 5 Add Signs and Supports	1,500.00	+1,500.00
(U) S.F.O. # 6 Change Legend	500.00	+500.00
(U) Engineering	42,500.00	+24,154.67

Principal reasons for overruns (Continue on reverse side): Additional Signs required by Traffic Information Council and Traffic Engineer and respective Engineering location of work and length of job contribute to engineering overrun. Anticipated costs due to sign deficiency will also increase engineering costs.

INSTRUCTIONS: A report on this form is to be submitted if and when it becomes evident that the project cost will exceed the original project authorization by more than five per cent and again if and when it becomes evident that the project cost will exceed by more than five per cent a subsequently approved increased project authorization. Submit five copies to Salem. After having been noted by the Deputy or Assistant State Highway Engineer, one copy will be sent to the Regional Engineer and one copy to the Resident Engineer.

Submitted by _____ Resident Engineer

Noted by _____ for Construction ~~or Bridge~~ Engineer

Confirmed by _____ Regional Engineer

Noted by _____ Acting Deputy ~~or~~ State Highway Engineer

SP*68727-734

8253

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon 97310

May 18, 1976

FILE:

NOTED

H. S. COULTER

FROM: L. E. George
Traffic Engineer

TO: W. E. Schwartz
Region 5 Engineer

SUBJECT: Logo Sign Additions
Motorist Service Signing Project
Old Oregon Trail Highway
Contract 8253

The Travel Information Council has sold Logo panels on the above-named highway at locations that were not on the original contract. Due to the late date, we should install these signs by State Forces and charge all costs to the contract prefix 614-1083. The State will have to furnish and install all footings, posts and sign panels.

Please make all arrangements to have signs installed at the following locations:

Interchange	Direction	Logo Panel	Size	Approximate M.P.	Approximate Distance/Gore
#353 Farewell Bend	Eastbound	Lodging	13' X 6'	352.23	0.69 Mile
#353 Farewell Bend	Westbound	Lodging	13' X 6'	354.09	0.84 Mile

Attached is a detail drawing of the various signs to be installed.

L. E. George
Traffic Engineer

ELS:rj
Attachment

cc: H. S. Coulter
C. T. Keasey
Robert Shotwell
Jack Sollis
Patty Calcaterra

8253

OREGON STATE HIGHWAY DIVISION
Portland, Oregon 97227
May 11, 1976

Routing
1 Keasey K RECEIVED Richards
2 Bond Glenn
Jackmond MAY 12 1976 Berg
Harwood
Johnsen CONSTRUCTION
Walker SECTION

NOTED
H. S. COULTER

Stillwell Construction Co.
P.O. Box 186
Bellevue, WA 98009

RE: Hinac Problem
Logo Sings
Contract No's. 8253 & 8260

Attention: Bill French

I have enclosed our preliminary survey of Hinac deficiencies on Sign Panels on Contract No. 8253, I-80N.

A large share of these panels were viewed from the ground with binoculars. We therefore have no knowledge of the extent of deterioration other than a visual inspection. As noted many of the signs show speckled areas of paint loss and only closer inspection will indicate how serious this condition is.

I understand from my telephone conversation with you this morning that Al McCrae of Industrial Plating is ready to begin replacing panels on I-80N. However a phone call from Mr. McCrae indicates he is not ready to assume responsibility for the failure of the Hinac.

He still feels the packing paper used is causing the problem and he plans on looking at more stockpiled signs in Salem tomorrow.

RECEIVED
Office of
Assistant State Highway Engineer

I was hoping for an earlier solution in order to complete the contract work.

Time is still being accessed against these contracts as you know and an expeditious solution to this problem is imperative.

Robert E. Shotwell
Resident Engineer

RES:rsr

XC: Ed Hardt
C. Keasey
K. Martin
Files.

8253

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.:)N-0(5)40

STATE PROJECT NO.: Motor Services Signing

FROM: G. L. Green, Division Administrator, Salem, Oregon

PROGRAM NO.:

ITEM NO.: I-830

COUNTY NAME: Various

PROGRAM STAGE (Check) ☐ 1. ☐ 2.

TO:

Mr. F. B. Klaboe
Administrator and State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
MAY 12 '76
REFER TO
Quinn
FOR

Info	Invest	R/D	R/R	Sign	Act	File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
6-4-75	4-21-76	Interstate Route 80N	Primary Route 2 & 6

GENERAL LOCATION:

MP 352.42 Eastbound Farewell Bend
MP 353.90 Westbound Farewell Bend

GENERAL DESCRIPTION OF WORK:

Fabricate & install gas and food Logo Signs at above locations

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

☐ PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY

☐ PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION

☐ OTHER (Specify)

☐ ACQUISITION OF RIGHT-OF-WAY

☐ CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS

☒ CONSTRUCTION - PROCEED ON [redacted] FORCE ACCOUNT BASIS

REMARKS

As requested in Mr. Keasey's letter of April 22, 1976 and based on the data submitted, you are authorized to proceed with the use of State Forces as being in the public interest, under State Forces Order No. 3 in the estimated amount of $3840 - Federal Funds $3,540.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
5-10-76	E F Valach	for Division Administrator

FORM PR-1240 (REV. 8-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

SP*12A30-734

8253

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Portland, Oregon 97227

May 5, 1976

FILE:

FROM: Robert E. Shotwell
Resident Engineer

TO: MEMO TO THE FILES.

SUBJECT: Logo Sign Contracts
Contract No's. 8253 and 8260

RECEIVED
MAY 06 1976
REGION 1

Received a call from Al McCrae (Industrial Plating) on May 4, 1975. He has been uncovering stockpiled signs in Salem looking for Hinac problems. He said he had found the problem with the Hinac - it was the plastic coated paper in which the signs had been packaged. I questioned how he had determined this and his answers were vague. He said he was going to stay overnight in Salem and then leave.

I contacted Stillwell Construction Co. by telephone and told them they should discuss problem with Al. Received several calls later in the day and the result was arrangement of another meeting in Salem.

Met today (May 5, 1976) with Pete Lemke (Traffic Control Signs Co.), Bill French (Stillwell), Al McCrae (Industrial Plating), "Earl" (Industrial Plating), Ron Reinkemeyer and myself.

Al proceeded to explain and show how paper was "dissolving" the Hinac.

His explanations seemed inconclusive especially in light of areas of stored signs which had no paper on them which also were losing paint. One area covered by only styrofoam could be rubbed and considerable paint removed on your finger. Also signs erected on I-80N have many Hinac failures and were never packaged in paper. Pete Lemke & Bill French maintained they had used this type paper (it is Scothlite paper used to cover adhesive coated reflective sheeting) for several years with no problems.

RECEIVED

cc: Scott Coulter - For your info.
ELH

Al McCrae took two panels from a stockpiled sign along with some of the paper and is going to take it to a laboratory and have it analyzed in hopes of finding answer to the problem.

I informed Bill French that we were looking to them to resolve the problem and that we intended to continue installation of panels good or bad in order to satisfy demands for Logo installations already sold. I also informed him time was still been charged on the contracts and a resolution of an extension was becoming increasingly difficult.

He informed me that they would pursue the problem and resolve it as quickly as possible.

Robert E. Shotwell
Resident Engineer

RES:rsr

XC: John Jenkins
C. Keasey
Ed Hardt
Ed Rief
Bub George
Kieth Martin
Patty Calcattera
Files.

8253

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION FILE:
INTER-OFFICE CORRESPONDENCE
Salem, Oregon 97310
February 17, 1976

FROM: L. E. George
Traffic Engineer

TO: Robert Shotwell
Resident Engineer

SUBJECT: Sign Revisions
Motorist Service Signing Project
Columbia River & Old Oregon
Trail Highways
Contract No. 8253

Attention: J. D. Simpson
Asst. Resident Engineer

We have reviewed your proposal for revision for signs 15 and 17 in Hood River on the above named project and offer the following solution:

Sign 15 - It is impossible to install the 10 inch legend on one line and have adequate spacing. Our suggestion is to decrease the legend size to 8 inch. All spacing between letters and words should be reduced by 30%.

Sign 17 - The attached drawing shows the recommended spacing to install the "FOOD NEXT RIGHT" and "FOOD SECOND RIGHT" on the existing panel size. On the top portion the spacing between words is reduced to 10 inches and all spaces between letters are normally spaced. On the bottom portion of the sign all spaces between letters in a word and all spaces between words should be decreased by 50%.

Also attached for your information are work sheets and a tabulation of letter sizes and spacings for 8 and 10 inch Miro-Flex legend.

I hope that this information will answer all your questions in regards to the necessary sign revisions.

L. E. George
Traffic Engineer

ELS:rj
Attachment
cc: Scott Coulter
E. L. Hardt
Patty Calcaterra
Adrian Olson
Jack Sollis

NOTED
H.S. COULTER

RECEIVED
FEB 18 1976
Office of
Assistant State Highway Engineer

8253

OREGON STATE HIGHWAY DIVISION

Portland, Oregon 97227
January 2, 1976

Stillwell Construction Co.
P.O. Box 186
Bellevue, WA 98009

RE: Logo Sign Contracts No's. 8253 & 8260
Columbia River & Old Oregon Trail (I-80N)
Pacific (I-5) (North Unit)

Attention: Bill French

I bring to your attention the limited amount of time remaining to complete the above two contracts.

As of this writing 44 days remain to perform contract work on Contract No. 8253. No Field Work has yet been performed on this project.

Contract No. 8260 has 19 days remaining.

The Highway Division is receiving many inquires on the progress of Logo Signing from advertizers and other interested parties. Your diligent pursuit of these projects is required.

I am in receipt of yours letters of December 31, 1975, allowing us access to your various storage yards to inspect contract materials.

The purpose of these letters was to obtain "Material on Hand" payments for the items stored. However the language of your letters States "Upon payment of the invoices ownership is transferred to the State."

RECEIVED
JAN 5 1976
Office of
Assistant State Highway Engineer

NOTED
H.S.COULTER

OREGON STATE HIGHWAY DIVISION

We will not accept ownership of the sign materials until they are either stored in Salem Shop area as per contract or installed satisfactorily on the project as the case may be.

So please do not consider us the owner until the above conditions have been met.

Robert E. Shotwell
Resident Engineer

RES:rsr

XC: Ed Hardt
Scott Coulter
Patty Calcaterra
Files.

FORM 81.734 1030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, OR 97310

December 2, 1975

FILE:

FROM: L. E. George
Traffic Engineer

TO: J. H. Versteeg
Road Design Engineer

SUBJECT: Motorist Service Sign Projects
Pacific and Old Oregon Trail Highways
Contracts 8253 and 8260.

We have been requested by the Travel Information Council to add several Logo signs to the above-named contracts. These signs are desired due to recent Logo panel sales.

A summary of the work to be done under the two contracts is as follows:

Contract 8253

Interchange	Logo Sign	Location	Size
Mission Junction	GAS-FOOD-LODGING	M.P. 215.17 (EBD)	20' x 8'
Mission Junction	GAS-FOOD-LODGING	M.P. 216.93 (WBD)	20' x 8'
North Powder	GAS	M.P. 284.84 (EBD)	15' x 6'
North Powder	GAS	M.P. 286.28 (WBD)	15' x 6'

Scott Coulter 12/9/75 Copy sent to c c's

Contract 8260

Interchange	Logo Sign	Location	Size
Coburg Road	CAMPING	M.P. 197.93 (NBD)	13' x 6'
Coburg Road	CAMPING	M.P. 200.25 (SBD)	13' x 6'
~~North Santiam~~	~~FOOD~~	~~M.P. 252.99 (NBD)~~	~~13' x 10'~~

delete

Also, the combined FOOD-LODGING Logo sign that was contracted for the North Santiam Interchange at M.P. 254.85 (SBD) and deleted at an earlier date, should be returned to the contract and installed at the location shown on the plans.

Will you please add these signs to the present contracts. Due to the progress of the contracts, it is suggested that the revised plan be forwarded as soon as possible.

Shotwell is handling He will make price agreement, etc.
ADMIN 12/8/75
prepare Item

L. E. George
Traffic Engineer

ELS:ds
Attachments

cc: E. L. Hardt
Robert Shotwell
Patty Calcaterra
Jack Sollis
H. S. Coulter

Patty

NOTED
H. S. COULTER

REFERRED TO
Reed
Beard
Cole
Sample
Erikson
Watson
Hager
Wolfe
Return Discuss Do File Copy Due
BY FINAL DESIGN ENGINEER

RECEIVED
DEC 9 1975
Office of
Assistant State Highway Engineer

TRAVEL INFORMATION COUNCIL

RECEIVED
R.D. TRAFFIC

BOX 2251 • SALEM, OREGON • 97308 • Phone (503) 378-3438

ROBERT W. STRAUB
GOVERNOR

COUNCIL MEMBERS:
ALFRED A. HAMPSON
Chairman

MRS. ROBERTA J. FULTON
Vice Chairwoman

MISS ELIZABETH C. DUCEY
Secretary

GEORGE M. BALDWIN
BILL BARBER
GARY COKER
ANN HUNT
WILLIAM HEALY
ALEX MURPHY
DAVID POVEY
N. P. STAROPOLI

STAFF:
JACK SOLLIS
Assistant Attorney General
and Counsel

PATTY CALCATERRA
Director

DEC 1 1975

TO: BOB SHOTWELL BUD GEORGE
JOE SIMPSON ~~ELMER~~ SCOFIELD

FROM: PATTY CALCATERRA, DIRECTOR
TRAVEL INFORMATION COUNCIL

THIS IS THE FOLLOW-UP LETTER I PROMISED REGARDING AMENDMENTS AND ADDITIONS TO THE LOGO SIGN LOCATIONS TO BE INCLUDED IN THE CURRENT LOGO CONTRACT:

I-5

COBURG ROAD #199:	ADD CAMPING BOARDS, EACH DIRECTION (SMALL)
SUNNYSIDE-TURNER #248:	REVISE GAS BOARD TO INCLUDE FOOD BOTH DIRECTIONS
NORTH SANTIAM #253:	ADD A FOOD BOARD NORTHBOUND (LARGE)

80-N

By State Forces

MISSION JUNCTION #216:	ADD A TRIPLE-SEATER TO THE CONTRACT FOR GAS, FOOD AND LODGING, EAST AND WEST (SMALL)
NORTH POWDER #285:	ADD GAS, EAST AND WEST (SMALL)

NOTED
ELMER SCOFIELD

REGARDING THE TIME-FRAME FOR OUR SOJOURN INTO THE FIELD TO LAY OUT PLANS FOR THE SUPPLEMENTAL SIGNS, THE WAY THE MONTH IS BEGINNING TO SHAPE UP, IT SOUNDS AS IF IT IS GOING TO BE VERY BUSY FOR ALL CONCERNED. WHAT IF WE GET TOGETHER AT THE EARLIEST POSSIBLE DATE TO COMPARE SCHEDULES AS THEY STAND NOW AND THEN ATTEMPT TO WORK OUT SOME SORT OF DISTANCE-TO-BE-COVERED PER DAY VS. NUMBER-OF-DAYS-AVAILABLE GRAPH; THEN TAKE A LOOK-SEE TO CALCULATE THE AMOUNT OF COMPLETION TIME ON THIS PROJECT. WHAT DO YOU THINK?

BY THE WAY, WOULD IT HELP THINGS IF I LISTED THE LOCATIONS WHERE WE'VE RECEIVED APPLICATIONS?

RECEIVED
DEC 2 1975
T. & F. ENGINEERING

BEST. . .

Patty

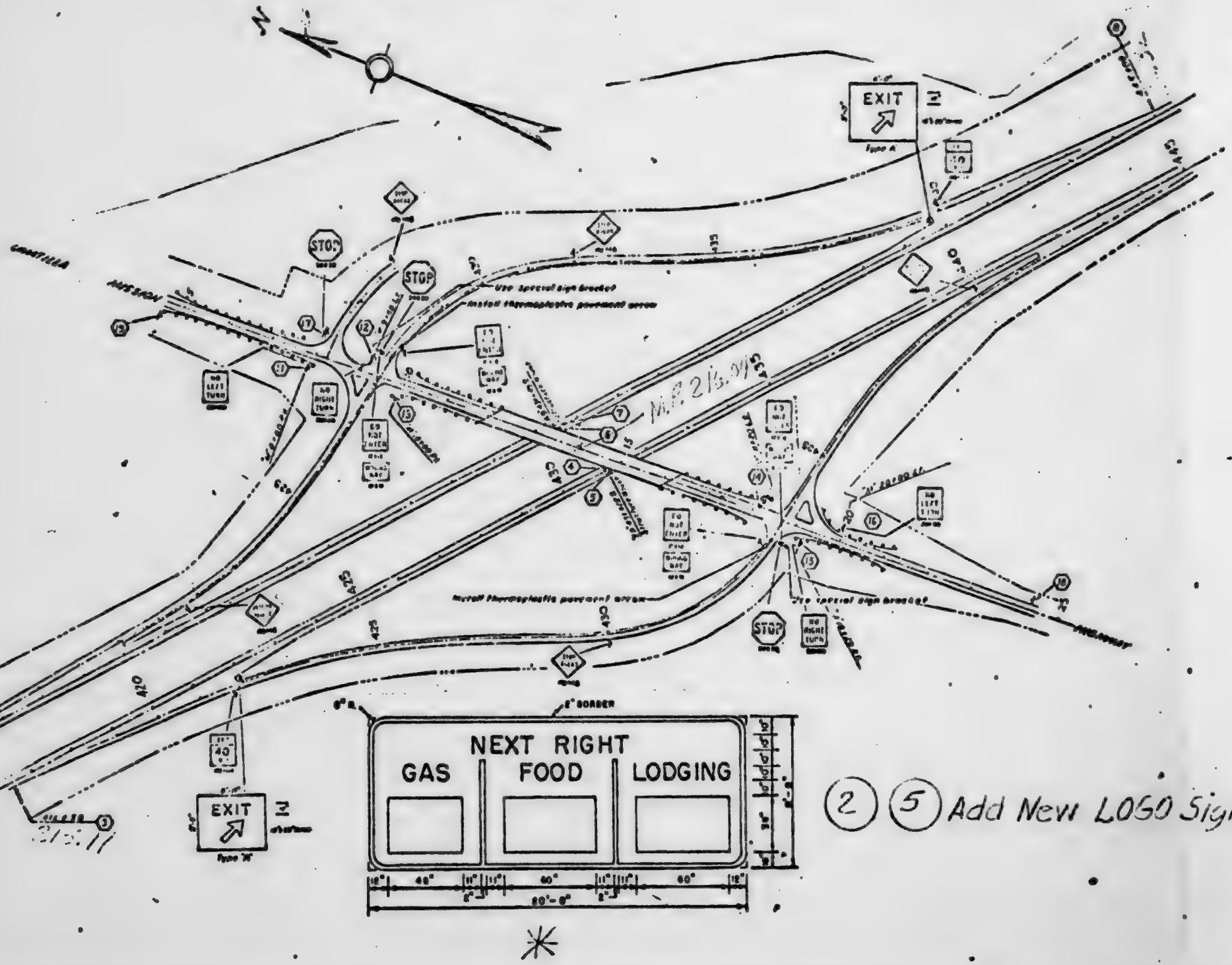
MISSION JCT. INTERCHANGE

1. M.P. 214.87 Rt. - Location of existing advance sign.
2. M.P. 215.17 Rt. - Location of 20' x 8' Gas-Food-Lodging Logo sign to be added to contract.
3. M.P. 215.32 Rt. - Location of existing Next Right sign.
4. M.P. 216.78 Rt. - Location of existing Next Right sign.
5. M.P. 216.93 Lt. - Location of 20' x 8' Gas-Food-Lodging Logo sign to be added to contract.
6. M.P. 217.22 Lt. - Location of existing advance sign.

MISSION JUNCTION INTERCHANGE

For Sign Details See Dwg. No. 26070

SCALE 0 100 200 400 FEET

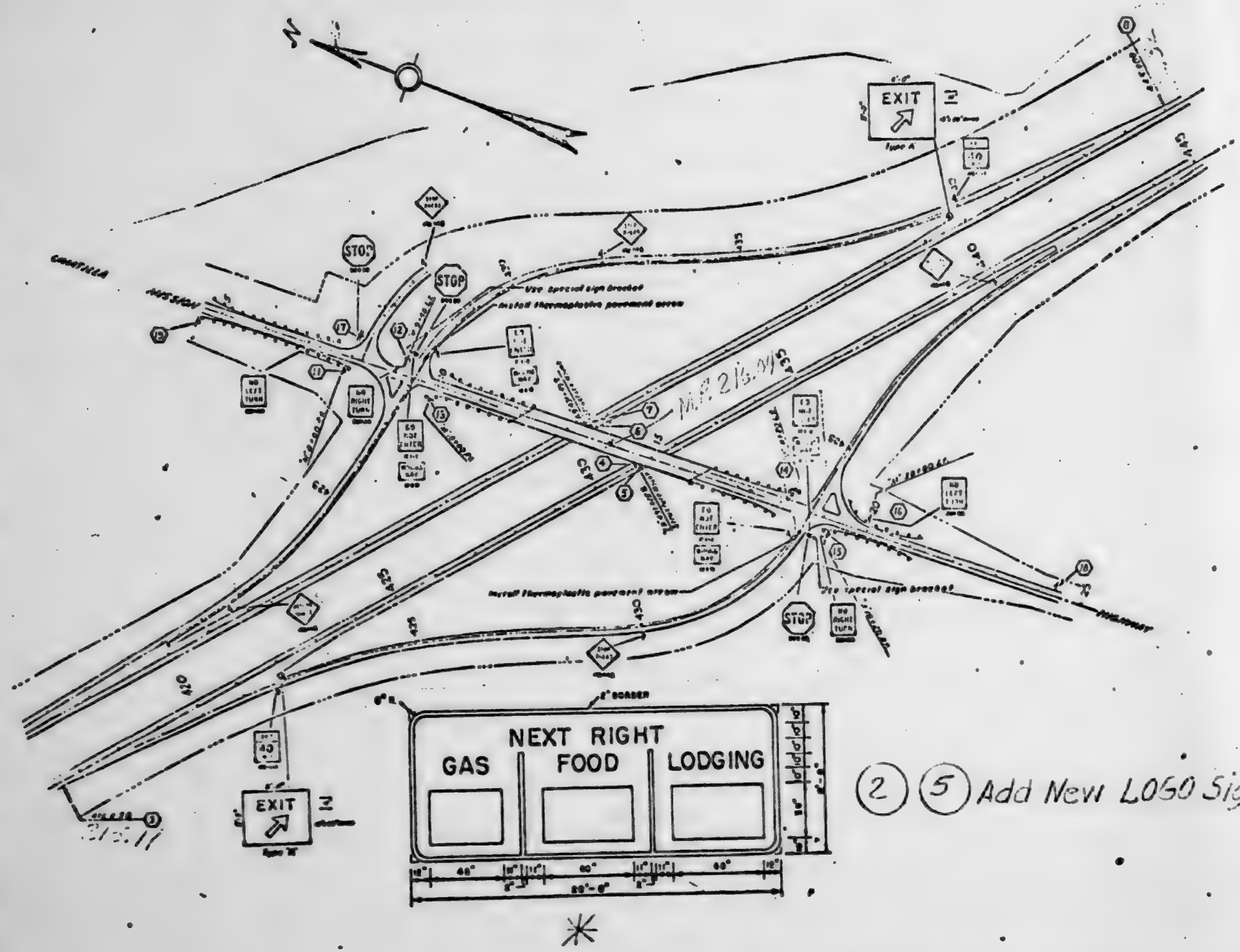


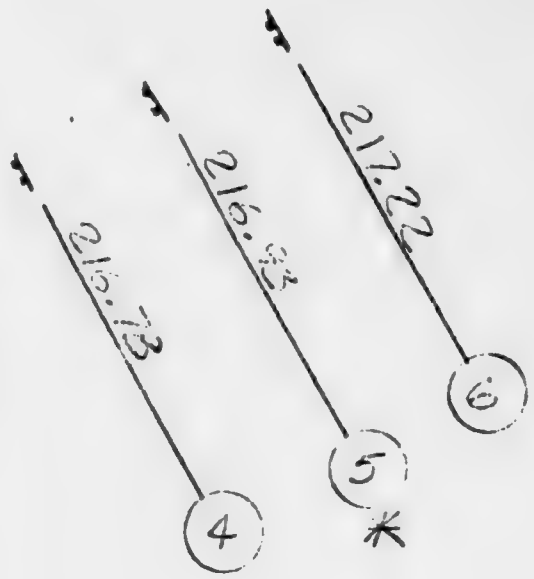
(2) (5) Add New LOGO Signs To C

MISSION JUNCTION INTERCHANGE

For Sign Details See Dwg. No. 26070

SCALE 0 100 200 400 FEET





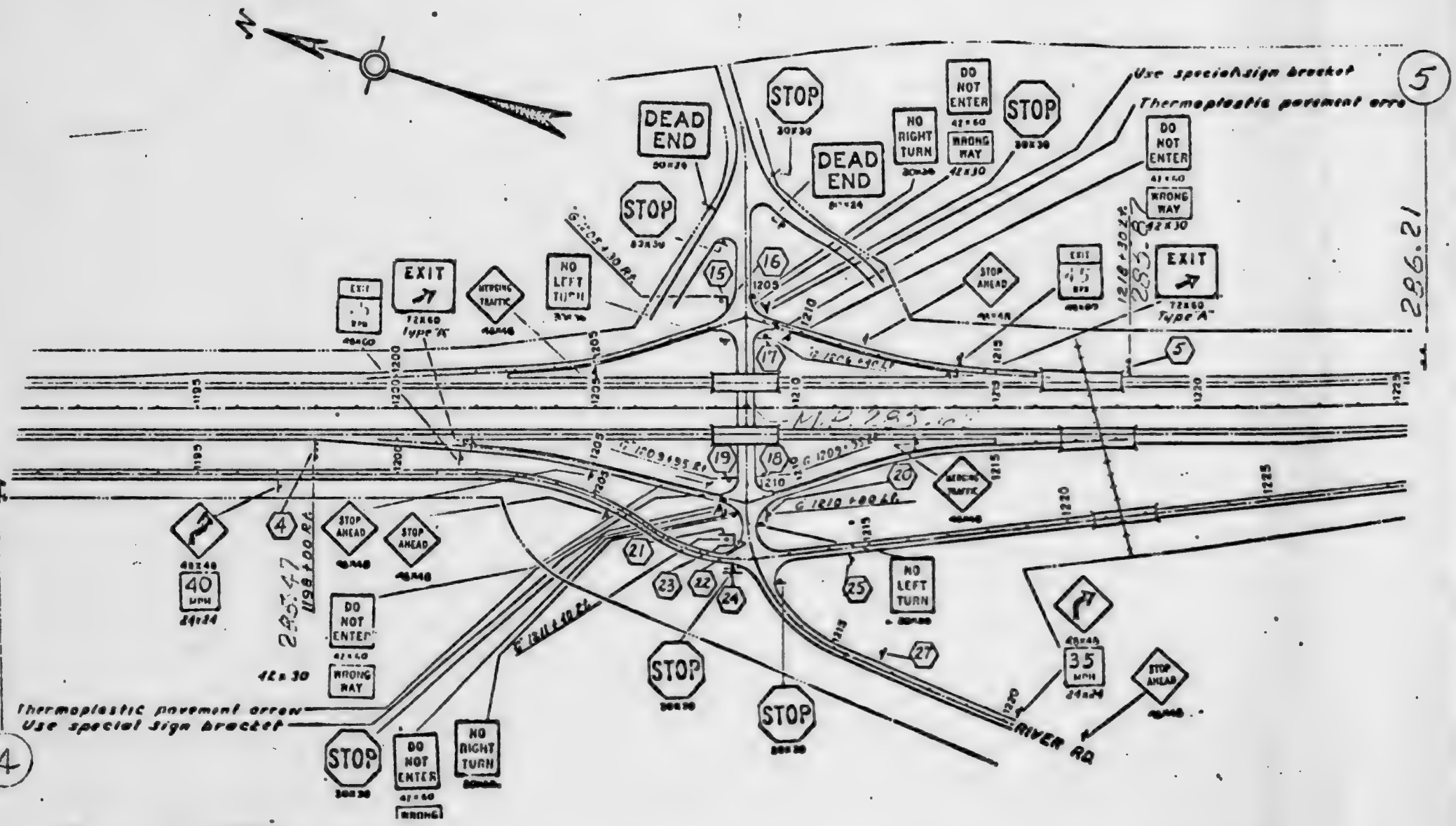
(2) (5) Add New LOGO Signs To Contract.

NORTH POWDER INTERCHANGE

1. M.P. 284.54 Rt. - Location of existing advance sign.
2. M.P. 284.65 Rt. - Location of contracted Food-Lodging Logo Sign.
3. M.P. 284.84 Rt. - Location of 15' x 6' Gas Logo sign to be added to contract.
4. M.P. 285.01 Rt. - Location of existing Next Right sign.
5. M.P. 285.21 Lt. - Location of existing river name sign.
6. M.P. 286.28 Lt. - Location of 15' x 6' Gas Logo sign to be added to contract.
7. M.P. 286.37 Lt. - Location of existing Next Right sign.
8. M.P. 286.54 Lt. - Location of contracted Food- Lodging Logo Sign.
9. M.P. 286.79 Lt. - Location of existing advance sign.

NORTH POWDER INTERCHANGE

SCALE 0 100 200 400 800 FEET

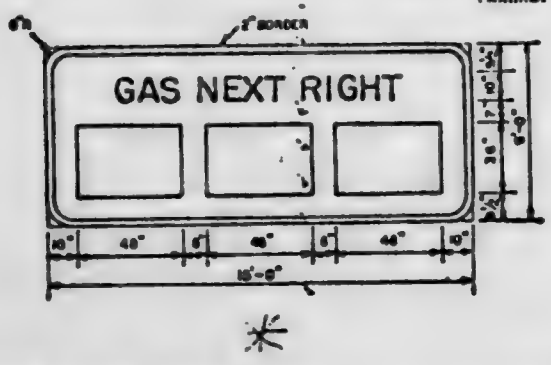


(1) 293.54

(2) 294.65

(3) 294.84 *

(4) 295.01

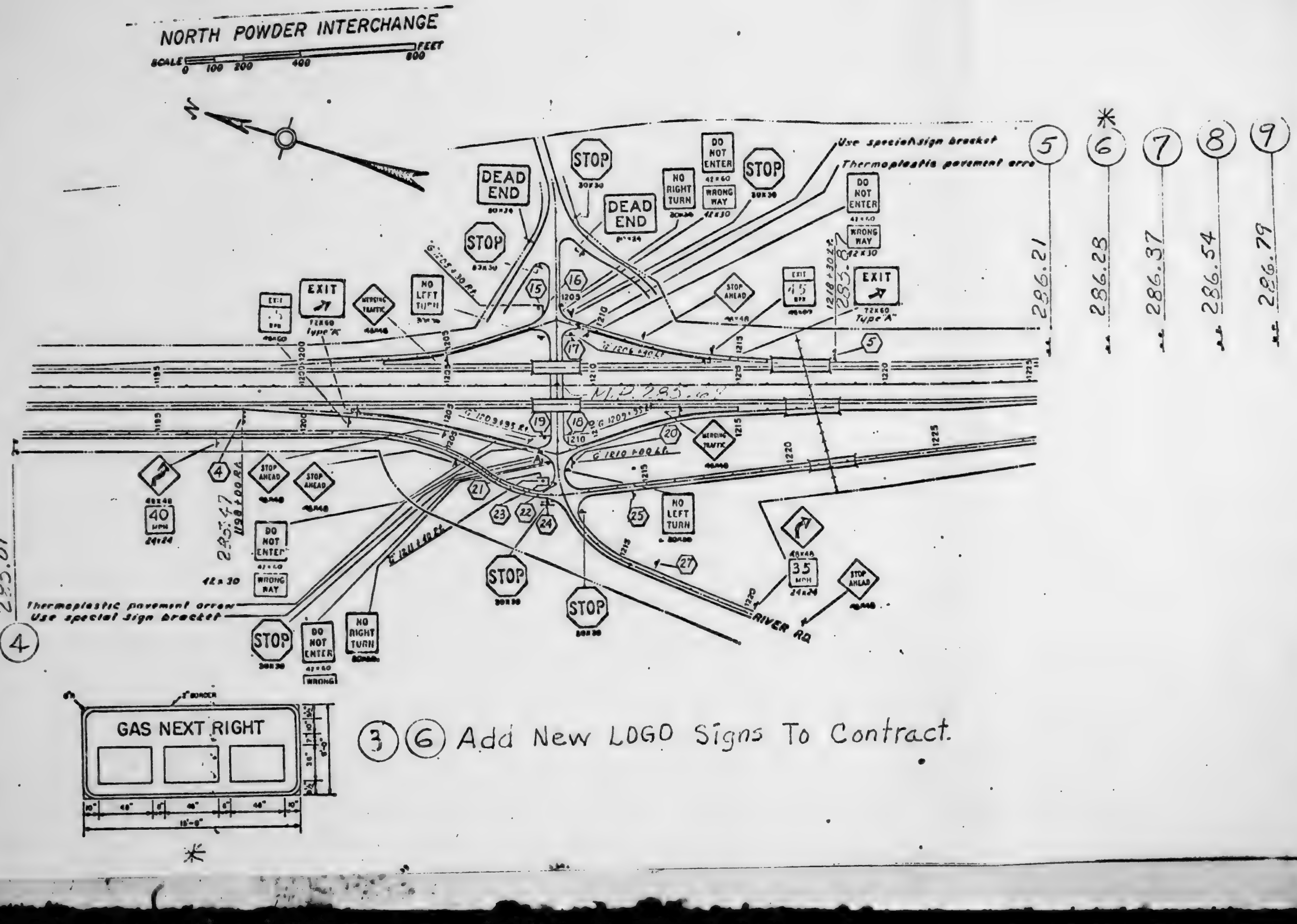


*

(3)(6) Add New LOGO Signs To Contract.

NORTH POWDER INTERCHANGE

SCALE 0 100 200 400 800 FEET



*

(3) (6) Add New LOGO Signs To Contract.

Form A-105—3M

OREGON STATE HIGHWAY DEPARTMENT

Order for State Force Work

APPLYING TO CONTRACT PROJECTS

Order No. 1

Project Name Motorist Service Signing Date November 25, 19 75

Highway Columbia River & Old Oregon Trail (I-80N) Contract No. 8253 F. A. Project No. I-80N-0(5)40

County Nine Counties Prefix 614-1083 Account No. 175-01

Description of Work To Be Done:

Unload and stockpile materials for Logo Signs.

APPROVED EFFECTIVE DATE 11/25/75
Contingent upon modification of project agreement if additional funds are required.
BY (signature)
TITLE Engineering Coordinator
DATE 1/12/76
FEDERAL HIGHWAY ADMINISTRATION

Location by Station Numbers:

Throughout project.

Estimate of Quantities and Costs:

Handle and Store Materials	$1,000.00

Explanation: Materials designated on plans to be stockpiled. Said materials shall be delivered to the State Highway Division Sign Shop area in Salem at such time to permit unloading during normal working hours. The materials will be unloaded and stockpile by State Forces. See special provisions. Work has not started. This is an Additional Anticipated item on the project authorization.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After approval by the Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Project authorization	$ 231,355.00
Present estimate of project cost, including $ 1,000.00 for work under this order	$ 222,182.33
Expected ~~XXXX~~ under-run (amount)	$ 9,172.67
Expected ~~XXXX~~ under-run (per cent)	3.96

Space to right of this line is for use of Salem Office

Submitted by: (signature) Resident Engineer

Approval Recommended: (signature) Division Engineer

Approval Recommended: (signature) Construction Engineer or Bridge Engineer

Approved: (signature) ~~Deputy State Highway Engineer~~ Assistant State Highway Engineer ~~or Chief Engineer~~ Construction Engineer.

State Printing

#8253

October 29, 1975

1160-K

Mr. Lewis G. Prichard
Prichard Research, Inc.
4250 S.W. Patrick Place
Portland, Oregon 97201

Dear Lew:

I appreciate having your letter concerning problems of access at the Idaho Avenue Interchange in Ontario.

The conditions at this location were recently brought to our attention and corrective measures are under way which should alleviate, if not eliminate, the confusion at this location.

I'm sorry for the inconvenience to you and your sister-in-law and hope your brother-in-law is now better.

Sincerely,

F. B. Klaboe
Administrator and
State Highway Engineer

bc: E. S. Hunter
H. S. Coulter
W. E. Schwartz

HSC:ia srb

8253

Salem

October 24, 1975

C. T. Keasey
Construction Engineer

H. S. Coulter
Assistant State Highway Engineer

Contract No. 8253
Motorist Information Signing--I80N

As discussed, will you please have added to the subject contract the supplemental logos at the Idaho Avenue Interchange in Ontario. This will indicate which of the two ramps eastbound traffic should follow after leaving the freeway to reach the various commercial services.

There is some indication that traffic desiring to go to Vip's Restaurant or the Tapadera Motel have taken the eastbound freeway on-ramp off Idaho Avenue.

To clarify this situation, it is appropriate to install a "FREEWAY ENTRANCE" sign just east of the on-ramp and northerly of Idaho Avenue indicating to eastbound traffic on Idaho Avenue that taking that ramp will result in their entering the freeway.

By copy of this memo to the Region Office, it is requested they arrange for installation of the sign.

HSC:ia

cc R. L. Schroeder
L. E. George
Jack Sollis
W. E. Schwartz
Patty Calcaterra

PRICHARD RESEARCH INC.
4250 SW Patrick Place,
Portland, Oregon 97201

October 21, 1975

Mr. Fred Klaboe
State Highway Engineer
State Capitol
Salem, Oregon, 97310

Dear Fred:

I was in Ontario, Oregon last week and I rode with my sister-in-law who was endeavoring to turn left going East from Highway 20 onto Tapadera Street. She turned too soon, then had to get back onto the right side of the yellow line, then turned again and was on an entrance to the Baker Freeway (but not at the beginning of that entrance to Baker Highway and/or exit to Highway 20). She had to go many miles to turn around.

The next evening another person was taking us to the Tapadera Motel about 8:00 PM when we came by the same spot where my sister-in-law had become confused. A very serious two-car accident had occurred at this spot. One car was on its side, and the whole area was occupied by emergency equipment to take care of the injured and the situation. We were lucky we had not become involved in an accident. Lighting at that time of evening, the topography of the area, being able to see the Motel very plainly and expecting to be able to make a simple exit to it are all confusing. Our sister-in-law said at the time, that this had happened to a neighbor with whom they were riding and that this time she was going to write to the Tapadera people and advise them just how dangerous a situation this was, as it had happened to her twice now. She lives in Nyssa and is in Ontario often, and commented on how needful it was because of the end-of-the-day lighting and headlights.

Persons not familiar with Tapadera Street, particularly after dark, do not realize that you have to go to the far-out end of that street to get onto that street inasmuch as it appears from the Highway that one should turn sooner. Mr. Flory of the Tapadera Motel said they have previously tried to get something done about these dangers because accidents frequently occur at this location. Maybe you would be willing to consider having changes made which would eliminate accidents at this point. I doubt if it would cost very much to fully and clearly mark the Highway or possibly make another connection with the west end of Tapadera Street and have a properly marked left turn lane on the Highway.

We were visiting my brother-in-law in the hospital. The first night we let our sister-in-law take us to our Motel, at about eight oclock. The second night we arranged a different transportation as we would not subject her to another possible frustration as she is alone, and we were concerned that no risks be taken, as her husband's condition is very critical. There was much traffic, perhaps because of hunting season.

RECEIVED
STATE HWY ENGR
OCT 22 '75
REFER TO
Coulter
FOR
Info | Inves | R/D | DR | Sign | Act | File

Best regards to you.

Sincerely,

Lewis B. Prichard

VIP'S

RESTAURANTS*INC.

250 LIBERTY S.E., SUITE 200, SALEM, ORE. 97301
PHONE 585-6221

October 8, 1975

Miss Patty Calcaterra
Director, Travel Information Council
310 Morgan Building
Portland, Oregon 97205

Dear Miss Calcaterra:

I am writing in regards to a serious signing problem which exists at the main Ontario interchange. This interchange is a combination diamond and clover leaf in design which by its nature contributes greatly to the confusion of motorist who are not familiar with the area. On this type of interchange directional signing becomes the key factor in eliminating the confusion of potential danger. The most serious problem exists from traffic traveling east from Baker. There is presently a food logo board which reads "Food next right" with the Vip's and Chalet logo below. Vip's is on the Payette side of the freeway and Chalet is on the Ontario side. As a result of the logo board directions, people wishing to go to Vip's are taking the first right which leads them in the wrong direction and forces them to make a potentially dangerous U turn after they realize the mistake. Once they have turned around and have crossed the freeway they face an additional problem. When they approach the Baker on-ramp the Vip's sign and Tapadera motel sign are very visible and gives the appearance that the on-ramp is the entrance to the restaurant and motel. This summer we had an average of 30 to 40 travelers per day complain that they ended up back on the freeway headed for Baker. A number of these cars attempted to either back up or make a U turn on the on-ramp and were ticketed. To our knowledge there have been at least two accidents (and probably more) as a result of a confused motorist.

Both the Tapadera motel and ourselves feel this serious problem could be corrected by the installation of two directional logo signs. The first one to be placed approximately 100 feet on the far side of the beginning of the Ontario off ramp reading "Food and Lodging next right" with the two logo's below. The second one just on the far side of the Baker on ramp reading "Food and Lodging next left" with the two logo's below.

We are very much in support of the logo program and feel it is a definite benefit to freeway oriented businesses as well as a tremendous aid to travelers. We have made applications at each of our restaurants when a logo board has been approved.

We would also like to take this opportunity to thank you for the fine cooperation we have received in the past and commend you on the excellent way this program has been organized and implemented in Oregon.

Yours truly,

Bob L. Smith

BLS:sc

125 TAPADERA AVE ONTARIO, OREGON 97914 PHONE 8[illegible] AREA 503

June 4, 1975

Governor Robert Straub
State of Oregon
Capitol Building
Salem, OR 97310

Dear Governor Straub:

Many members of this community are concerned about a very serious traffic hazard created by inadequate highway signs on highway 30, the freeway to Payette, Idaho.

To turn onto Tapadera Avenue, it is necessary to make a left turn off the freeway, across two lanes of traffic, when approaching from the west. When attempting to to gain access to Tapadera Avenue from the east, it is almost impossible to differentiate the Tapadera Avenue exit from the approach to 80N, for Baker.

There are at least 20 vehicles each day, when upon realizing they are on the way to Baker, rather than on Tapadera Avenue, make one of three illegal and hazardous choices. They either slam on the brakes and back up to Tapadera Avenue, make a U-turn and approach traveling the wrong way or cut across the meridian and come in that way.

The Highway Department has just installed the new bridge signs on highway 30. There is a conspicuous gap in this sign above the lane which is for the Tapadera Avenue exit as approaching from the west. There is also an empty hole in the sign above the lane to enter Tapadera Avenue from the east.

Since the major portion of the cost of these signs is in the bridge and framework, it seems to me, the state can certainly afford to place the proper signs in position.

ENCLOSU[illegible] (2)

[illegible] Lounge (Convention Center ( ) Year Around Pool
THE LAST MOTELS

8253

October 23, 1975

John A. Bond
Construction Administration Engineer

Robert Shotwell
Resident Engineer

Motorist Service Signing
Contract 8253

We are sending this to you direct to avoid delay or loss in the current shift of construction contracts from Metro to Region 1.

We have been instructed to add a contract sign at Ontario eastbound to try to clarify the off-route to VIP'S and the Tapadera. The location and sign layout are shown on attached plans. Note that this requires moving an existing "Exit Speed 40" sign. Sheet showing an estimated $1,000 cost is also attached. Please initiate a price agreement.

cc: R. N. Bothman
Ed Hardt
W. E. Schwartz - A "freeway entrance" sign is also to be added by state forces where a westbound on-ramp leaves Idaho Avenue. Sketch is attached. If you prefer have the resident engineer submit a state force order (non-participating) to cover this.

JAB:cjc

RECEIVED
OCT 24 1975
Office of
Assistant State Highway Engineer

NOTED
H.S.COULTER

Salem, Oregon
October 17, 1975

Frank E. Terpin
Final Design Engineer

Robert E. Shotwell
Resident Engineer

Keith L. Martin
Resident Engineer

Revised Sign Shop Drawings
Motorist Service Signing Project
Pacific, Columbia River and Old
Oregon Trail Highways
Contract Nos. 8252, 8253 and 8260

Enclosed find revised corrected sign shop drawings on the above-named project. The sign fabricator contacted this office with questions regarding word lengths and spacing between words and borders. Upon receipt of the drawings it was decided that the best way to relay the corrections to all parties involved was with revised drawings.

The revised drawings cover all questioned signs on the above three contracts thus there are signs that may or may not appear in the individual contracts.

In view of the short time period until contract completion dates, the revised shop drawings are being sent directly to the involved parties.

WGB:we
cc: C. T. Keasey
Ed Rief, w/attach.
Traffic Control Signs Company w/attach.
W. G. Beard

Versteeg
A. Olson
Terpin
Scott
Swenson
R. Olson
Trout

RECEIVED
OCT 17 1975
ROAD DESIGN SECTION

Requires Reply ☐
Requires Approval ☐
Receiver Keep
Do not File
Return To
Bring Up
Other

8253

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

6-4-75

FEDERAL AID PROJECT NO.
80N-0(5)40

STATE PROJECT NO.
I-80N Motor Service Signing

FROM:
G. L. Green, Division Engineer
Salem, Oregon

PROGRAM NO.

ITEM NO.
I-830

COUNTY NAME
See below

PROGRAM STAGE (Check)
[ ] 1. [X] 2.

TO:

Mr. F. B. Klaboe
Administrator & State Highway Engineer
State of Oregon
Salem, Oregon

NOTE:
E. S. HUNTER

RECEIVED STATE HWY ENGR
JUL 23 '75
REFER TO
FOR
Info
Inves
R/D
D/R
Sign
Act
File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER / STATE ROUTE NUMBER
June 4, 1975	June 4, 1975	Interstate Route 80N Primary Routes 2 and 6

GENERAL LOCATION:
I-80N Cascade Locks Interchange - North Ontario Interchange

GENERAL DESCRIPTION OF WORK:
Install footings, posts and panels for mounting motor service signs (Logo Signs)

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

- [ ] PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY
- [ ] PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION
- [ ] OTHER (Specify)
- [ ] ACQUISITION OF RIGHT-OF-WAY
- [ ] CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS
- [ ] CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

Mr. Rulien's June 2, 1975 request and certifying statements are accepted.

PS&E documents for the subject project have been reviewed and are approved.

A signed title sheet is returned herewith.

7-24-75
ORIGINAL TO
L. W. Rulien
w/att.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
6-4-75	C R Burghardt for	Division Engineer

FORM PR-1240 (REV. 6-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

6-43 6-44

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION | STATE HIGHWAY DEPARTMENT

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS
(PPM 21-1)

Transaction Number 6-43 and 6-44

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS
(PPM 21-1)

STATE HIGHWAY DEPARTMENT: Oregon
DATE: 6-2-75
BY (Signature): L. W. Rulien's May 19, 1975 letter
TITLE: Project Management Engineer

CLASS OF FEDERAL FUNDS
[XX] FAI [ ] FAP [ ] FAU [ ] FAS [ ] OTHERS

STAGE 1 *
ITEM NOS. _____ THRU _____

STAGE 2
ITEM NOS. 829 THRU 830

ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS
829	I-5-0(4)11	0.0	462,000	426,300
830	I-80-0(5)40	0.0	435,000	401,400

OTHER IDENTIFICATION AND/OR REMARKS (State)

Location	Work
I-5 South Ashland Interchange North Tigard Interchange Jackson, Josephine, Douglas Lane, Linn, Marion, Clackamas, and Multnomah Counties State of Oregon	Signing (Logo Signs)
I-80N Cascade Locks Interchange N. Ontario Interchange Hood River, Wasco, Sherman, Gilliam, Morrow, Umatilla, Union, Baker, and Malheur Counties, State of Oregon	Signing (Logo Signs)

RECEIVED
STATE HWY ENGR
JUN - 4 '75

REFER TO Hunter
FOR

Info	Inves	R/D	D/R	Sign	Act	File
					✓	

REMARKS (Division)

NOTED
L. E. JOHNSON

Orig

RECOMMENDED		APPROVED	
DATE	SIGNATURE AND TITLE	DATE 6-2-75	SIGNATURE AND TITLE for L. Green, Division Engineer C. R. Burghardt

* Program approval and any authorization to proceed with a Stage 1 project shall not constitute any commitment of Federal funds nor shall it be construed as creating any obligation on the part of the Federal Government to provide Federal funds for the undertaking.

FORM PR-48
(Rev. 8-71)

GPO 915-890

6-2-75

8953

Transaction Number 6-43 and 6-44

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

STATE HIGHWAY DEPARTMENT: Oregon

DATE: 6-2-75

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS
(PPM 21-1)

BY (Signature): F. W. [illegible]'s May 19, 1975 letter

TITLE: Project Management Engineer

CLASS OF FEDERAL FUNDS: ☒ FAI ☐ FAP ☐ FAU ☐ FAS ☐ OTHERS _____

STAGE 1 * ITEM NOS. _____ THRU _____		STAGE 2 ITEM NOS. 829 THRU 830		FEDERAL FUNDS	OTHER IDENTIFICATION AND/OR REMARKS (State)
ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST		Location / Work
829	I-5-0(4)11	0.0	462,000	426,300	I-5 South Ashland Interchange, North Tigard Interchange, Jackson, Josephine, Douglas, Lane, Linn, Marion, Clackamas, and Multnomah Counties, State of Oregon / Signing (Logo Signs)
830	I-80-0(5)40	0.0	435,000	401,400	I-80N Cascade Locks Interchange, N. Ontario Interchange, Hood River, Wasco, Sherman, Gilliam, Morrow, Umatilla, Union, Baker, and Malheur Counties, State of Oregon / Signing (Logo Signs)

NOTED
L. S. HUNTER

ENGR
JUN 4'75
REFER TO
FOR

REMARKS (Division)

RECEIVED
JUN 5 1975
OFFICE OF

6-5-75
ORIGINAL TO
L.W. Rubien

RECOMMENDED		APPROVED	
DATE	SIGNATURE AND TITLE	DATE 6-9-75	SIGNATURE AND TITLE

* Program approval and any authorization to proceed with a Stage 1 project shall not constitute any commitment of Federal funds nor shall it be construed as creating in any manner, any obligation on the part of the Federal Government to provide Federal funds for the undertaking.

FORM PR-48
Rev. 8-71)

GPO 915-690

R

6-2-75

8853

8453

R

PRO 6-2

May 19, 1975

TO G. L. Green, Division Engineer
Federal Highway Administration

FROM L. W. Rullen
Project Management Engineer

SUBJECT Program Data Submission
Project Nos. I-5-0(4) and I-80N-0(5)

We are submitting program data for two projects, Item Nos. 829 and 830, Project Nos. I-5-0(4)11 and I-80N-0(5)40, "Motor Service Signing Projects", which we desire to have included in the Federal-aid Interstate Highway Program.

It is our present intention to receive bids for these projects on June 19, 1975.

We request your concurrence that the projects fall in the classification of nonmajor action as set forth in FHPM 7-7-2, par. 10e.

For Item No. 830 we request a waiver of Districts 9, 12 and 13 Clearinghouse A-95 reviews based on the fact that the work involved is such that it will not affect decisions or other public works activities of concern to clearinghouse agencies, or result in significant alteration of land-use or traffic-flow patterns which would require changes in planning completed or underway.

DRH:js

Budget Bureau No. 41-R2067;

U.S.

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO H. Q.

FORM PR-1 (REV. 4-61)

5-19-75

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

CARD	REPORT NUMBER	PROJECT LOCATION (45 typewriter spaces)		PRESENT	FUTURE YEAR	REGION	STATE NAME
CARD 2	1 (19) (20)	I-5, South Ashland Int.-North Tigard Int. 21 68	ADT	N/A	N/A (66) (70) (71) (72)	10	Oregon

CARD	CHARACTER OF PROPOSED WORK (35 typewriter spaces)	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER
CARD 3	Signing (Logo Signs) 26 62	(63) (68)	(69) (75)	(69)	(70)	(71)	(72) (73)	(74) (75)	I- 14 23	5-0 7

CARD	CLASS OF FEDERAL FUNDS	COUNTY NAME	CODE
CARD 4	Interstate	See Back	(14)
	NAME OF URBAN AREA: See Back (17-31)	ROUTE NO. I	FEDERAL-AID I-5 (32) STATE 1 (36) (37) U.S. I-5

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	STEP	TERMINI (Full description)	MILES	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS
1	(1415)	(16)	41	42	43 46	53		(54) (58)	(59) (66)	(67) (76)		
5					PE		I-5, South Ashland Intchge.-North Tigard Intchge.					
5					ROW							
5					CONST (CODE) Y002		"Motor Service Signing Project"	0.0	462,000	426,300	35,700	
								0.0	462,000	426,300	35,700	

(16) (23) (24) (33)

CARD	CODE	PREPARED BY	PROJECT TOTALS
1	1		
1	14	PROGRAM APPROVAL DATES	

REMARKS

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Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FORM PR-1 (REV. 4-61)

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

5-19-75

PROJECT LOCATION (45 typewriter spaces)	ADT	PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPN CODE	ITEM NO.
I-5, South Ashland Int.-North Tigard Int.		N/A	N/A		10	Oregon	41	042	829

PROPOSED WORK (35 typewriter spaces)	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.	I. Projects Only POST MI.	DESIG.
Logo Signs)								I-	5-0	(4)	11	

LANDS	COUNTY NAME	CODE
Interstate	See Back	

See Back	ROUTE NO. I	FEDERAL-AID I-5	STATE 1	U.S. I-5	PROGRAM STAGE 1 OR X 2

WORK TYPE	STEP	TERMINI (Full description)	MILES	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
PE		I-5, South Ashland Intchge.-North Tigard Intchge.						Inst. footings, posts & panels for mounting motor service signs (Logo Signs)
ROW								
CONST (CODE) Y002		"Motor Service Signing Project"	0.0	462,000	426,300	35,700		
PROJECT TOTALS			0.0	462,000	426,300	35,700		

ED BY

M APPROVAL DATES

REMARKS

-over-

-over-

MOTOR SERVICE SIGNING PROJECT
PROJECT NO. I-5-0(4)11

Project Data: The project consists of installing footings, posts and information panels, at designated locations tabulated below, for mounting individual signs to give the motoring public specific service information available on the crossroads at or near the interchange.

Mile Post	Interchange	County	County Code	Section	Urban Area
11	South Ashland	Jackson	029	1	
14	Green Springs	Jackson	029	1	Ashland
19	North Ashland	Jackson	029	1	
21	Valley View Road	Jackson	029	1	
24	Fern Valley Road	Jackson	029	1	
27	Barnett Road	Jackson	029	1	Medford
30	Crater Lake	Jackson	029	1	Medford
32	Central Point	Jackson	029	1	
40	Kane Creek	Jackson	029	1	
43	Rock Point	Jackson	029	1	
45A	Homestead	Jackson	029	1	
48	Rogue River	Jackson	029	1	
55	East Grants Pass	Josephine	033	1	Grants Pass
58	North Grants Pass	Josephine	033	1	Grants Pass
61	Louse Creek	Josephine	033	2	
71	Sunny Valley	Josephine	033	2	
76	Wolf Creek	Josephine	033	2	
98	South Canyonville	Douglas	019	2	
99	North Canyonville	Douglas	019	2	
108	Myrtle Creek	Douglas	019	2	
125	Garden Valley Road	Douglas	019	3	Roseburg
136	Sutherlin	Douglas	019	3	
148	Rice Hill	Douglas	019	3	
150	Yoncalla	Douglas	019	3	
174	Cottage Grove	Lane	039	3	Cottage Grove
182	Creswell	Lane	039	3	
189	McVay	Lane	039	3	Eugene
191	Glenwood	Lane	039	3	Eugene
194	"Q" Street	Lane	039	4	Eugene
195	Belt Line Road	Lane	039	4	Eugene
199	Coburg Road	Lane	039	4	
209	Diamond Hill	Linn	043	4	
233	Santiam	Linn	043	4	Albany
234B	North Albany	Linn	043	4	Albany
253	North Santiam	Marion	047	5	Salem
256	Market Street	Marion	047	5	Salem
258	Hayesville	Marion	047	5	
271	Woodburn	Marion	047	5	
282	Hubbard	Clackamas	005	5	
294	North Tigard	Multnomah	051	6	

IM 50-1-70 Requirements: Exempt from State Clearinghouse
2, 3, 4, 5, 6 and 8 Clearinghouse A-95 reviews under work

FHPM 7-7-2 Requirements: Nonmajor action project.

FHPM 7-7-5 Requirements:

(a) Public Hearings - - - None required under provi
graph 6c.
(b) Design Approval - - - Considered given by FHWA
al Standards (National Standards and Criteria
Highway Signs within Interstate Rights-of-Way
Service Information for the Traveling Public)
January 17, 1969, as Part 22, Chapter I of Ti
Federal Regulations. FHWA concurred by memor
February 15, 1972.

Note: (1) This project is in Congressional Districts 1,
(2) On-the-job trainees, as set forth in FHWA ord
7-2(2), on this project will be determined at
and the number stipulated in the PS & E docum

Data for PR-37:

Clackamas - - - - - - - - - - -	Est. Cost	$ 3,200.
Douglas - - - - - - - - - - - -	Est. Cost	57,000.
Jackson - - - - - - - - - - - -	Est. Cost	158,200.
Josephine - - - - - - - - - - -	Est. Cost	72,800.
Lane - - - - - - - - - - - - -	Est. Cost	98,100.
Linn - - - - - - - - - - - - -	Est. Cost	15,800.
Marion - - - - - - - - - - - -	Est. Cost	50,600.
Multnomah - - - - - - - - - - -	Est. Cost	6,300.
	Total Est. Cost	$462,000.

MOTOR SERVICE SIGNING PROJECT
PROJECT NO. I-5-0(4)11

The project consists of installing footings, posts and
els, at designated locations tabulated below, for mount-
signs to give the motoring public specific service
ilable on the crossroads at or near the interchange.

nterchange	County	County Code	Section	Urban Area
h Ashland	Jackson	029	1	
n Springs	Jackson	029	1	Ashland
h Ashland	Jackson	029	1	
ey View Road	Jackson	029	1	
Valley Road	Jackson	029	1	
ett Road	Jackson	029	1	Medford
er Lake	Jackson	029	1	Medford
ral Point	Jackson	029	1	
Creek	Jackson	029	1	
Point	Jackson	029	1	
stead	Jackson	029	1	
e River	Jackson	029	1	
Grants Pass	Josephine	033	1	Grants Pass
h Grants Pass	Josephine	033	1	Grants Pass
e Creek	Josephine	033	2	
y Valley	Josephine	033	2	
Creek	Josephine	033	2	
h Canyonville	Douglas	019	2	
h Canyonville	Douglas	019	2	
le Creek	Douglas	019	2	
den Valley Road	Douglas	019	3	Roseburg
herlin	Douglas	019	3	
e Hill	Douglas	019	3	
calla	Douglas	019	3	
tage Grove	Lane	039	3	Cottage Grove
swell	Lane	039	3	
y	Lane	039	3	Eugene
wood	Lane	039	3	Eugene
Street	Lane	039	4	Eugene
t Line Road	Lane	039	4	Eugene
urg Road	Lane	039	4	
mond Hill	Linn	043	4	
tiam	Linn	043	4	Albany
th Albany	Linn	043	4	Albany
th Santiam	Marion	047	5	Salem
ket Street	Marion	047	5	Salem
258	Hayesville	Marion	047	5	Salem
271	Woodburn	Marion	047	5	Woodburn
282	Hubbard	Clackamas	005	5	
294	North Tigard	Multnomah	051	6	Portland

IM 50-1-70 Requirements: Exempt from State Clearinghouse and Districts 2, 3, 4, 5, 6 and 8 Clearinghouse A-95 reviews under working agreements.

FHPM 7-7-2 Requirements: Nonmajor action project.

FHPM 7-7-5 Requirements:

(a) Public Hearings - - - None required under provisions of paragraph 6c.

(b) Design Approval - - - Considered given by FHWA when the National Standards (National Standards and Criteria for Official Highway Signs within Interstate Rights-of-Way Giving Specific Service Information for the Traveling Public) were issued January 17, 1969, as Part 22, Chapter I of Title 23, Code of Federal Regulations. FHWA concurred by memorandum dated February 15, 1972.

Note: (1) This project is in Congressional Districts 1, 2 and 4.
(2) On-the-job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at PS & E stage and the number stipulated in the PS & E documents.

Data for PR-37:

Clackamas - - - - - - - - - -	Est. Cost	$ 3,200.00
Douglas - - - - - - - - - -	Est. Cost	57,000.00
Jackson - - - - - - - - - -	Est. Cost	158,200.00
Josephine - - - - - - - - - -	Est. Cost	72,800.00
Lane - - - - - - - - - -	Est. Cost	98,100.00
Linn - - - - - - - - - -	Est. Cost	15,800.00
Marion - - - - - - - - - -	Est. Cost	50,600.00
Multnomah - - - - - - - - - -	Est. Cost	6,300.00
	Total Est. Cost	$462,000.00

Budget Bureau No. 41-R2067; Approval Expires

U.S. DEPARTMENT OF
BUREAU OF PU

ONTHLY TRANSACTION NO.

TE SUBMITTED TO H. Q.

FORM PR-1 (REV. 4-61)

5-19-75

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

REPORT NUMBER: 1 (19)(20)

PROJECT LOCATION (45 typewriter spaces): I-80N, Cascade Locks Int.-N. Ontario Int. 21 65

ADT | PRESENT: N/A | FUTURE: N/A | YEAR: (66)(70)(71)(72)

REGION: 10

STATE NAME: Oregon | STATE CODE: 41 (2)(3)(4)

CHARACTER OF PROPOSED WORK (35 typewriter spaces): Signing (Logo Signs) 20 62

NATL. FOREST (63)(65) | FH ROUTE NO. (66)(68) | SUPV AGCY (69) | DA CLASSIF. (70) | DA AREA (71)(72)

EMERG. YR. (73) | PL. AUTH Y.R. (74)(75)

PROJECT NUMBER: PREFIX LETTER(S) I- (14) | NUMBER 80-0 (23) | SEQ. NO. (5) (7)(12)

CLASS OF FEDERAL FUNDS: Interstate

COUNTY NAME: See Back | CODE (114)(116)

NAME OF URBAN AREA: See Back 17-31

ROUTE NO. I | FEDERAL-AID I-80N (32) | STATE 2 & 6 (36)(37) | U.S. I-80N (41)

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	STEP	TERMINI (Full description)	MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS
	(54)(58)	(10)	41	42	43 46	53		(54)(58)	(59) (66)	(67) (76)		
1	(1648)						I-80N, Cascade Locks Intchge.-N. Ontario Intchge.					
5					PE							
5					ROW							
5					CONST (CODE) Y002		"Motorist Service Signing Project"	0.0	435,000	401,400	33,600	
							PROJECT TOTALS	0.0	435,000	401,400	33,600	

(10) (23)(24) (33)

CHARA PROPO (Full d

Inst. foo posts & p mounting service s signs)

CARD 1 | CODE 1 | PREPARED BY

1 | 14 | PROGRAM APPROVAL DATES

REMARKS

-over-

FORM PR-1 (REV. 4-61)

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

5-19-75

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

PROJECT LOCATION (45 typewriter spaces): I-80N, Cascade Locks Int.-N. Ontario Int.

ADT: PRESENT N/A; FUTURE N/A; YEAR

REGION: 10

STATE NAME: Oregon

STATE CODE: 41

APPN CODE: 042

ITEM NO.: 830

PROPOSED WORK (35 typewriter spaces): Signs)

NATL. FOREST:

FH ROUTE NO.:

SUFY AGCY:

DA CLASSIF.:

DA AREA:

EMERG. YR.:

PL. AUTH YR:

PROJECT NUMBER: PREFIX LETTER(S): I- ; NUMBER: 80-0 ; SEQ. NO.: (5)

I. Projects Only: POST MI.: 40 ; DESIG.: N

FUNDS: Interstate

COUNTY NAME: See Back ; CODE:

See Back

ROUTE NO. I ; FEDERAL-AID I-80N ; STATE 2 & 6 ; U.S. I-80N

PROGRAM STAGE: ___ 1 OR X 2

WORK TYPE	STEP	TERMINI (Full description)	MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
PE		I-80N, Cascade Locks Intchge.-N. Ontario Intchge.						Inst. footings, posts & panels for mounting motor service signs (logo signs)
ROW								
CONST (CODE) Y002		"Motorist Service Signing Project"	0.0	435,000	401,400	33,600		
		PROJECT TOTALS	0.0	435,000	401,400	33,600		

BY

APPROVAL DATES

REMARKS

-over-

MOTORIST SERVICE SIGNING PROJECT
PROJECT NO. I-80N-0(5)40

Project Data: The project consists of installing footings, posts and information panels, at designated locations tabulated below, for mounting individual signs to give the motoring public specific service information available on the crossroad at or near the interchange.

Intchge. Mile Post	Interchange	County	County Code	Section	Urban Area
44	Cascade Locks	Hood River	027	2	
62	W. Hood River	Hood River	027	2	
63	2nd Street	Hood River	027	3	
64	E. Hood River	Hood River	027	3	
82	Chenoweth Creek	Wasco	065	3	
83	W. The Dalles	Wasco	065	3	The Dalles
84	W. 2nd St.	Wasco	065	3	The Dalles
85	Brewery Grade	Wasco	065	3	The Dalles
87	The Dalles Bridge	Wasco	065	3	The Dalles
104	Biggs	Sherman	055	3	
109	Rufus	Sherman	055	3	
137	Arlington	Gilliam	021	4	
164	Boardman	Morrow	049	5	
182	Hermiston	Umatilla	059	5	
202	Barnhart	Umatilla	059	5	
207	W. Pendleton	Umatilla	059	5	Pendleton
209	Emigrant Ave.	Umatilla	059	5	Pendleton
210	S. Pendleton	Umatilla	059	5	
259	W. LaGrande	Union	061	6	LaGrande
261	Wallowa Lake	Union	061	6	LaGrande
265	Union Jct.	Union	061	6	
285	N. Powder	Union	061	6	
304	Campbell St.	Baker	001	7	Baker
206	S. Baker	Baker	001	7	
374	N. Ontario	Malheur	045	8	Ontario

IM 50-1-70 Requirements:

(a) State Clearinghouse and District 2 & 14 Clearinghouses - - exempt from A-95 review under working agreements dated April 28, 1970, October 16, 1970 and August 11, 1970, respectively.

(b) District 9, 12 & 13 Clearinghouses - - - Waiver of reviews being requested under program submittal based on the fact the work is solely installatio along the roadway.

FHPM 7-7-2 Requirements: Nonmajor action project.

FHPM 7-7-5 Requirements:

(a) Public Hearings: None required under provisions o 6c.

(b) Design Approval: Considered given by FHWA when th standards (National Standards and Criteria for O Highway Signs within Interstate Rights-of-Way Gi Service Information for the Traveling Public) we January 17, 1969, as Part 22, Chapter I of Title Federal Regulations. FHWA concurred by memoran February 15, 1972.

Note: (1) This project is in Congressional District No. 2.
(2) On-the-job trainees, as set forth in FHWA order 7-2(2), on this project will be determined at PS and the number stipulated in the PS & E document

Data for PR-37:

Baker Co.	Est. Cost	$ 29,5
Gilliam Co.	Est. Cost	22,
Hood River Co.	Est. Cost	81,
Malheur Co.	Est. Cost	7,
Morrow Co.	Est. Cost	22,
Sherman Co.	Est. Cost	29,5
Umatilla Co.	Est. Cost	99,
Union Co.	Est. Cost	66,
Wasco Co.	Est. Cost	77,
	Total Est. Cost	$435,

MOTORIST SERVICE SIGNING PROJECT
PROJECT NO. I-80N-0(5)40

he project consists of installing footings, posts and ls, at designated locations tabulated below, for mount- igns to give the motoring public specific service infor- on the crossroad at or near the interchange.

terchange	County	County Code	Section	Urban Area
le Locks	Hood River	027	2	
od River	Hood River	027	2	
treet	Hood River	027	3	
od River	Hood River	027	3	
veth Creek	Wasco	065	3	
Dalles	Wasco	065	3	The Dalles
St.	Wasco	065	3	The Dalles
y Grade	Wasco	065	3	The Dalles
lles Bridge	Wasco	065	3	The Dalles
	Sherman	055	3	
	Sherman	055	3	
gton	Gilliam	021	4	
man	Morrow	049	5	
ston	Umatilla	059	5	
art	Umatilla	059	5	
ndleton	Umatilla	059	5	Pendleton
ant Ave.	Umatilla	059	5	Pendleton
ndleton	Umatilla	059	5	
Grande	Union	061	6	LaGrande
wa Lake	Union	061	6	LaGrande
Jct.	Union	061	6	
wder	Union	061	6	
ll St.	Baker	001	7	Baker
ker	Baker	001	7	
ario	Malheur	045	8	Ontario

ements:

Clearinghouse and District 2 & 14 Clearinghouses - - exempt A-95 review under working agreements dated April 28, 1970, er 16, 1970 and August 11, 1970, respectively.

(b) District 9, 12 & 13 Clearinghouses - - - Waiver of A-95 reviews being requested under program submittal letter based on the fact the work is solely installation of signs along the roadway.

FHPM 7-7-2 Requirements: Nonmajor action project.

FHPM 7-7-5 Requirements:

(a) Public Hearings: None required under provisions of paragraph 6c.

(b) Design Approval: Considered given by FHWA when the national standards (National Standards and Criteria for Official Highway Signs within Interstate Rights-of-Way Giving Specific Service Information for the Traveling Public) were issued January 17, 1969, as Part 22, Chapter I of Title 23, Code of Federal Regulations. FHWA concurred by memorandum dated February 15, 1972.

Note: (1) This project is in Congressional District No. 2.
(2) On-the-job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at PS & E stage and the number stipulated in the PS & E documents.

Data for PR-37:

Baker Co. - - - - - - - - - - - - - - -	Est. Cost	$ 29,500
Gilliam Co. - - - - - - - - - - - - - -	Est. Cost	22,100
Hood River Co.- - - - - - - - - - - - -	Est. Cost	81,100
Malheur Co. - - - - - - - - - - - - - -	Est. Cost	7,400
Morrow Co.- - - - - - - - - - - - - - -	Est. Cost	22,100
Sherman Co. - - - - - - - - - - - - - -	Est. Cost	29,500
Umatilla Co.- - - - - - - - - - - - - -	Est. Cost	99,500
Union Co. - - - - - - - - - - - - - - -	Est. Cost	66,400
Wasco Co. - - - - - - - - - - - - - - -	Est. Cost	77,400
	Total Est. Cost	$435,000

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: May 5, 1975

In reply refer to: 1041DA.1/520.61

SUBJECT: LOGO Signs

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Based on the information contained in Mr. Coulter's April 29, 1975 letter indicating that all of the 261 locations originally submitted will be installed in approximately 1 year after being let to contract, your original proposal of April 11, 1975 is approved.

for G. L. Green

RECEIVED
MAY 8 1975
Office of
Assistant State Highway Engineer

RECEIVED
STATE HWY ENGR
MAY 7'75
REFER TO
Coulter
FOR
Info | Inves | R/D | D/R | Sign | Act | File

5-8-75
by [illegible]

NOTED
H.S. COULTER

NOTED
L. E. JOHNSON

CON 18-5

Robert W. Straub
XXXXXXXXX

DATE April 29, 1975

TO Glen L. Green, Division Engineer
Federal Highway Administration

FROM H. S. Coulter
Assistant State Highway Engineer

SUBJECT LOGO Signs
Your File 1041DA.1/520.61

Your letter of April 22 outlined a suggested method of determining the number of footings, sign supports and sign panels that might be stockpiled over and above those that have actually been sold.

This method is agreeable to this office; however, we have determined that the 261 locations originally submitted to you for preliminary approval and which are being included in the contracts currently under preparation were in fact based upon probable sales. This was not known at the time of transmission of my April 11 letter. Out of the 261 locations, 82 have been sold during the first months of 1975. In fact, several locations were sold which were not in the original 261 locations. On the basis of the sales during the first three months of the year, it was our best estimate that the remaining 179 locations will very likely be sold during the 12-month period after the projects are let to contract. Because of this we would like to request reconsideration of your proposed method of determining additaonal locations in stockpile materials.

Based on the above data, it is requested that the remaining 179 locations be approved for inclusion in the projects currently under way in our Design Section.

LEG:pb ia

bc F. B. Klaboe
A. E. Johnson
E. S. Hunter
R. L. Schroeder
L. E. George
Jack Sollis
E. E. Beckman
Patty Calcaterra
J. H. Versteeg

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

SUBJECT: LOGO Signs

DATE: April 22, 1975

In reply refer to: 1041DA.1/520.61

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. Coulter's April 11, 1975 letter indicates that contract documents are presently being prepared for an early bid opening for LOGO installations at approximately 100 locations on I-5 and I-80N where firm commitments from businesses have been obtained or expected to be obtained prior to the contract being let. He further indicates that approximately 150 additional footings will be installed as part of the project at locations where commitments have not been obtained but are expected sometime in the future. Also, approval as part of the contract to maintain a stockpile of additional sign supports and panel material to be installed by State forces as the need arises was requested.

As discussed with Mr. George on April 21, 1975, we would have no objections to participating in the stockpiling of those sign supports and panel material and the construction of those additional footings which would likely become necessary within 1 years time of awarding the proposed contract. The number of such additional footings and sign supports to be stockpiled would be based on a study of both present and past sales volumes and a study of the effect your recent request to combine LOGO signs on one panel would have on the total number of signs to be included in the initial contract.

RECEIVED
STATE HWY ENGR
APR 23 '75
REFER TO
FOR
Info | Inves | R/D | DR | Sign | Sig | Es

G. L. Green

STE
L. JOHNS

RECEIVED
APR 24 1975
Office of
State Highway Engineer

3353

R

CON 18-5

Robert W. Straub
XXXXXXXXX

DATE April 11, 1975

TO Glen L. Green, Division Engineer
Federal Highway Administration

FROM H. S. Coulter
Assistant State Highway Engineer

SUBJECT LOGO Signing

The Highway Division is currently preparing documents for an early bid opening for LOGO installations on I-5 and I-80N that were recently given tentative approval by your office. Some 250 locations are involved--out of these, approximately 75 locations currently have firm commitments from businesses for purchasing LOGOS. By the time the project is let to contract, it is expected that another 25 commitments will be made for a total of 100 locations at which LOGOS will be installed as part of the contract. The remaining 150 locations will have footings installed as a part of the project. It was our original intent to stockpile the supports and sign panels for these 150 locations such that an immediate response would be possible upon space sale by the Travel Information Council.

Since such a large number of locations will remain without needed sign installations, an alternate plan seems appropriate. It is our opinion that a reasonable stockpile of supports and sign panel material (based on expected sales in the near future) should be stockpiled as a part of this contract. It is further suggested that the stockpile inventory could be maintained at a reasonable level based on LOGO sales and that, if needed, State Forces could respond to necessary sign installations using the stockpile material. Reimbursement from the FHWA would then be requested on a piece-meal basis as the future sign installations were made.

The request for Federal participation in this State Force work would seem to be justified since the LOGO signs are of an entirely different nature than the sign installations usually made on the Interstate system. Your approval is requested for the proposal outlined above.

LEG:pb ia

bc F. B. Klaboe
A. E. Johnson
R. L. Schroeder
L. E. George
Jack Sollis
J. H. Versteeg
E. E. Beckman
Patty Calcaterra

8053

FOR• 81-734-3030

R

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

April 1, 1975

FILE:

FROM: A. D. Olson
Preliminary Design Engineer

SUBJECT: Logo Signs

TO: MEMORANDUM TO THE FILES

NOTED
E. S. HUNTER

Logo signs for I-5 and I-80N are being designed at this time. A meeting was attended March 26 with E. E. Beckman, Elmer Scofield and Patty Calcaterra to review the type and size of signs to be provided at each interchange and where logos have been sold.

A review of the appropriate Highway Program Manual (Vol. 6, Chapter 8, Section 3, Subsection 8, Transmittal 38, dated July 2, 1974) was made and design criteria checked with Bud George and Ernie Valach. I have been advised that the interchanges to be signed have been approved, that the 1,000 foot spacing between signs is approximate and that breakaway posts will be used as a standard procedure.

The Program Manual states that the panels shall be located near to the right of way line and readable from the main traveled way. They shall be located longitudinally to take advantage of the natural terrain and have the least impact on the scenic environment.

The Manual on Uniform Traffic Control Devices states that a minimum height of 7 feet above the edge of pavement to the bottom of sign shall be used unless the signs are positioned away from the pavement edge to increase roadway safety. In that case a height of 5 feet may be used.

Taking into account the above, studies by other states on night visibility of signs offset from the roadway, effect of splash on signs close to the highway and savings by reducing sign heights brought about the following design criteria for design of the logo signs.

Signs in cut sections will be located so that the near post will be 5 feet above the edge of running lane, signs back of guard rail will be 4 feet from the face of guard rail to the edge of the sign with 6 feet to be used if the guard rail has not been set back the desirable 2 feet from edge of shoulder. In open areas the far edge of the sign will be at least one foot inside of the right of way or the near post will be 50 feet from the edge of running lane, whichever is closer. The normal height of the bottom of the sign above the edge of running lane will be 5-1/2 feet where it is behind guard rail (to allow for future overlays) and 5 feet where greater than 30 feet from the edge of shoulder. A minimum of 7-1/2 feet will be used if it is necessary to install a sign closer than 30 feet from the edge of shoulder where guard rail does not exist.

RECEIVED
APR 2 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

Signs will be designed for all positions indicated on the data received from Elmer Scofield and footings will be constructed. Signs will be erected where logos have been sold. A determination will be made prior to contracting in regard to whether materials for the remainder of the signs will be stockpiled, provided under subsequent contracts or obtained in some other manner.

Attached is a list of the interchanges involved in the current contract along with the size, type and status (sold?) of the proposed signs.

Unless advised to the contrary the above criteria and data will be used to prepare plans.

ADO:jh
Attachment
cc: E. S. Hunter
L. E. George
E. J. Valach
E. E. Beckman
Patty Calcaterra
Bill Beard

LEGEND;

S: SMALL LOGO BOARD G: GAS F: FOOD L: LODGING C: CAMPING
L: LARGE LOGO BOARD X: INDICATES THAT LOGOS ARE SOLD IN THAT CATEGORY.

THE FOLLOWING TABULATION RECORDS THE INTERCHANGES AND THE PROPOSED BOARD SIZE.

INTERCHANGE AND M.P. #:	NORTHBOUND G:	F:	L:	C:	SOUTHBOUND G:	F:	L:	C:
SOUTH ASHLAND #11	LX	LX	L	S	-	-	-	-
GREEN SPRINGS #14				S				S
NORTH ASHLAND #19							L	S
VALLEY VIEW RD.#21	S	S			S			
FERN VALLEY RD.#24	LX	SX	S		LX	SX	S	
BARNETT RD. #27				S				S
CRATER LAKE #30				S	LX	LX	LX	S
CENTRAL POINT #32			L	S			L	S
KANE CREEK (GOLD HILL) #40	S	S		LX	S	S	S	LX
ROCK POINT #43		S	L			S	L	
HOMESTEAD #45A	SX	S	S					
ROGUE RIVER #48	LX	L	L	L	LX	L	L	L
EAST GRANTS PASS #55	LX	LX	L	L	LX	LX	L	L
NORTH GRANTS PASS #58				L	LX	LX	LX	L
MERLIN (LOUSE CREEK) #61	S			SX	S			SX
SUNNY VALLEY #71				S				S
WOLF CREEK #76		S	S			S	S	
SOUTH CANYONVILLE #98			SX		L			
NORTH CANYONVILLE #99							S	
MYRTLE CREEK #108	L	L	S		L		S	
GARDEN VALLEY RD. #125								S
SUTHERLIN #136	LX	L	L					S
RICE HILL#148			S			L	S	
PONCALLA #150			S				S	

I-5 CONTINUED

INTERCHANGE AND M.P. #:	NORTHBOUND G:	F:	L:	C:	SOUTHBOUND G:	F:	L:	C:
COTTAGE GROVE #174				S		LX	L	S
CRESWELL #182				SX				SX
MCVAY #189	LX	S			LX	S	S	
GLENWOOD #191	S	SX	S		S	SX	S	
"Q" STREET #194	LX	LX	LX		LX	LX		
BELTLINE RD. #195	LX	L						
COBURG RD. 199		S	S			S	SX	
DIAMOND HILL #209				S				S
SANTIAM #233					L	LX		
NORTH ALBANY #234						LX		
NORTH SANTIAM #253	S			S	S	SX	S	S
MARKET STREET #256	LX	LX	LX		LX	LX	LX	
HAYESVILLE #258	L	L						
WOODBURN #271			S				S	
NORTH TIGARD #294					LX	L	S	

80-N:	EASTBOUND:				WESTBOUND:			
CASCADE LOCKS #44	L	L	L	SX	L	L	L	SX
WEST HOOD RIVER #62	S	L	L	S	S	L	LX	S
2ND STREET #63	L	LX	L					
EAST HOOD RIVER #64					SX	S	S	
CHENOWITH CREEK #82	S	S						
WEST THE DALLES #83	L	LX	L					
WEST 2ND STREET #84					L	L	L	
BREWERY GRADE #85	L	LX	L		L	LX	L	
THE DALLES BRIDGE #87	LX	L	S		LX	L	S	S
BIGGS #104	LX	L			LX	L		
RUFUS #109		S	S			S	S	

8253

INTERCHANGE AND M.P.# :	EASTBOUND G:	F:	L:	C:	WESTBOUND G:	F:	L:	C:
ARLINGTON #137		S	S	S		S	S	S
BOARDMAN #164		L	L	S		L	L	S
HERMISTON #182	SX			SX	SX			SX
BARNHART #202	S	SX	S		S	SX	S	
WEST PENDLETON #207	L	L	L		L	L	L	
EMIGRANT AVE. #209	LX	LX	L		L	LX	L	
SOUTH PENDLETON #210	L	L	L			L	L	
WEST LA GRANDE #259	S	S	SX					
WALLOWA LAKE #261	L	L	L		L	L	L	
UNION JCT. #265					S	S	S	
NORTH POWDER #285	S	S	S		S	S	S	
CAMPBELL STREET #304	L	L			L	L	L	
SOUTH BAKER #306					L	L	L	
NORTH ONTARIO #374	L	L						

TOTALS:

GAS, L: 45 (~~24~~ 23 SOLD) ~~23~~

GAS, S: 23 (~~4~~ 5 SOLD) ~~5~~

68 28

F,L,C :L 93 (~~28~~ ~~27~~ 26 SOLD) ~~27~~

F,L,C :S ~~100~~ ~~99~~ (19 ~~20~~ SOLD) ~~20~~

~~192~~ ~~47~~

193 46

74 ~~75~~ sold

187 + ~~86~~ not sold

261 Total

8253

FORM 81-734-3030

R

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

FILE:

Salem, Oregon

March 26, 1975

ORIGINAL SIGNED BY
J. H. VERSTEEG

FROM: J. H. Versteeg
Road Design Engineer

SUBJECT: Logo Sign Contract
I-5 and I-80N

TO: MEMORANDUM TO THE FILES

We have been instructed to work up contract plans for logo signing on I-5 and I-80N. A crew under A. D. Olson's direction is working up the field data to determine physical sign requirements at the proposed locations.

Scott Coulter advises that either Bud George or Lyle Beckman will coordinate projects and advise us which signs will go up and which are to be stock-piled, etc.

In discussing this project briefly with E. J. Valach of the FHWA, he was advised that Bud George would handle discussions concerning stage construction and FHWA participation in funding. Mr. Valach did say that the new logo signs should be placed according to the new regulations. The existing logo signs will be relocated at some future date to conform to the new criteria.

JHV:jh
cc: Scott Coulter
C. T. Keasey
L. E. George
Lyle Beckman
J. B. Boyd
A. D. Olson

RECEIVED
MAR 27 1975
Office of
Assistant State Highway Engineer

NOTED
H.S. COULTER

8253

R

SUGGESTED REPLY FOR MR. BALDWIN'S SIGNATURE
March 6, 1975

Mr. Ronald M. Somers
Attorney At Law
106 E. Fourth Street
The Dalles, Oregon 97058

Dear Mr. Somers:

We appreciate your concern as to the information being transmitted by ~~our~~ The Director of the Travel Information Council. You, of course, were aware that this was a misstatement and was unintentional.

We believe that as a general rule statements like this when brought to our attention will be rectified by a letter correcting the statement. We will ~~bring this to Miss Calcaterra's attention~~ make Miss Calcaterra aware of this and I'm sure that she is appreciative of you bringing this to our attention.

JBB:jk

882-K

(do not send)

ring file to Baldwin 370.75

NOTED
F. B. KLABOE

JOHN E. UFFELMAN
ASSOCIATE

RONALD M. SOMERS
ATTORNEY AT LAW
108 E. FOURTH STREET
THE DALLES, OREGON
97058

P. O. BOX 616
PHONE 296-2181

February 24, 1975

Mr. George M. Baldwin
Oregon State Highway Department
Salem, Oregon 97310

Mr. Alfred A. Hampson
Chairman
Oregon State Highway Department
Salem, Oregon 97310

Mr. Jack Sollis
Department of Transportation
Oregon State Highway Department
Salem, Oregon 97310

RECEIVED
STATE HWY ENGR.
FEB 25 '75
REFER TO
Boyd R/D
FOR
Info | Invest | R/D | D/R | Sign | Act | File

#883 due 3-7 reply for mB

RE: Billboards Along Interstates 5 and 80N

Gentlemen:

Enclosed herein you will find a photocopy of a letter sent out January 3, 1975, to The Dalles Chamber of Commerce which was called to my attention. You will note the first sentence of the letter indicates that the State of Oregon is removing all billboards along Interstates 5 and 80N. This letter was not only sent out to The Dalles Chamber of Commerce, but I understand to other individuals also.

I would anticipate a prompt reply from Mr. Baldwin and Mr. Sollis as to when and where the funding is coming from for this project, and if I should notify the owners of billboards that they are subject to immediate condemnation proceedings.

I would assume the letter should of said, as you will note in my penciled notations, that the State of Oregon has agreed to remove all billboards [illegible] except those in commercial and industrial areas along Interstates 5 and 80N. There is a gross misstatement, I believe, which should be corrected, or I should anticipate hearing immediately from Mr. Jackson and Mr.

Klaboe as to when and where the Highway Department received the funds and authority to remove signboards in industrial and commercial zones.

Thank you for your prompt response.

Very truly yours,

Ronald M. Somers

RMS:jj
Enclosure

cc: Mr. Glen Jackson
Chairman, Oregon State Highway Commission
Pacific Power and Light
920 S. W. Sixth Avenue
Portland, Oregon 97204

cc: Mr. Fred Klaboe
Administrator, Oregon State Highway Department
Department of Transportation
Salem, Oregon 97310

TRAVEL INFORMATION COUNCIL

RECEIVED DEC 1 4 1975

~~BROADWAY AT WASHINGTON~~
~~310 MORGAN BUILDING • PORTLAND, OREGON • 97205 • Phone (503) 229-5021~~
2960 E. State Street - Room 208 - Salem, OR 97310 - Phone (503) 378-2636

TOM McCALL
GOVERNOR

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M. P. STAROPOLI

STAFF
ANDY SCHAUB
Assistant Attorney General
and Counsel
PATTY CALCATERRA
Director

January 3, 1975

Entertainment Chairman
The Dalles Chamber of Commerce
PO Box 460
The Dalles, OR 97058

should read except in downtown + industrial areas

Dear Entertainment Chairman:

The State of Oregon has agreed to remove all billboards along Interstates 5 and 80N. As an alternative means to advise motorists and give directions to the nearest facilities at each interchange the state has instituted the logo signing and information center programs. If you should have available time in the future at one of your meetings, a representative from the Travel Information Council would be more than happy to give a slide presentation on the new signs and explain about the Information Centers.

Oregon is one of the first states to try this program and we feel it is very important to keep the public informed. We would like to hear comments from the members of your organization and any suggestions they may have about the new programs. We would be happy to talk with you on this if you can give us a call at the above number at your convenience. Thank you very much.

Very truly yours,
TRAVEL INFORMATION COUNCIL

Patty Calcaterra

Patty Calcaterra,
Director

PC/dp

8053

R

FORM E-30

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

SALEM, OR 97310

NOTED
H. S. COULTER

DATE March 3, 1975

TO H. S. Coulter
Asst. State Highway Engineer

REFER TO
Hunter
BY ASST. STATE HWY. ENGR.

FROM L. E. George
Traffic Engineer

SUBJECT LOGO Signing Contract

Several days ago, you requested that I check with the Design Section to see if it would be possible to complete in time for a March bid opening, a LOGO sign contract that would install on 80N and I-5 at all remaining possible locations the sign footings necessary for previously approved LOGO installations. Under this contract, the supports and backboards would be stockpiled.

I have checked with Frank Terpin who supervises the Sign Design Unit. It was indicated that it now is too late to initiate any contract for a March bid opening. A contract could be prepared for an April bid opening at the expense of other work. It would take a priority decision to determine which work should be done first.

100% of the field cross-section data has been transmitted to this office and relayed to Design.

200 locations

NOTED
E. S. HUNTER

LEG:pb

RECEIVED
MAR 3 1975
Office of
Assistant State Highway Engineer

1553

R

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
100 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

February 28, 1975

Ronald M. Somers, Esq.
Attorney at Law
106 E. Fourth Street
The Dalles, Oregon 97058

Re: Billboards Along Interstate I-5 and I-80N

Dear Mr. Somers:

In reply to your letter of February 24, 1975, addressed to Mr. George M. Baldwin, Mr. Alfred A. Hampson and myself, I have the following to offer.

The letter sent out by the Travel Information Council Director on January 3, 1975, was in error and should have included a phrase "except in commercial and industrial areas."

Corrective letters are being sent out to all people who received the original letter and I have been assured that this was an oversight in the preparation of the letter.

Outdoor advertising signs are still allowed in commercial and industrial zones and none will be removed from commercial and industrial zones.

Sincerely,

ORIGINAL SIGNED BY
JACK L. SOLLIS

Jack L. Sollis
Assistant Attorney General

ljh

cc: Glenn L. Jackson
George M. Baldwin
Fred Klaboe
Alfred A. Hampson

RECEIVED
STATE HWY ENGR
MAR 3'75
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Air

TRAVEL INFORMATION COUNCIL

1018 PUBLIC SERVICE BLDG. • PORTLAND, OREGON • 97204 • Phone (503) 226-6641

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GOVERNOR

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DAVID POVEY
N. P. STAROPOLI

STAFF:
JACK SOLLIS
Assistant Attorney General
and Counsel
PATTY CALCATERRA
Director

February 28, 1975

Mr. Ronald M. Somers
106 E. Fourth Street
The Dalles, Oregon 97058

[illegible]
[illegible]

Dear Mr. Somers:

In response to your letter of February 24 I am very sorry that a letter was written by Patty Calcaterra that contained the misstatement which you pointed out. I have asked Mr. Sollis to take steps to have it corrected and a correcting letter be sent not only to the Entertainment Chairman of the Chamber of Commerce but also to everyone else who received such a letter.

Again let me apologize to you and let me advise you that we will be as careful as we can to see that such a misstatement is not again made. I am sending a copy of this letter to each person to whom you directed your letter.

Very truly yours,

Alfred A. Hampson

AAH:me

cc: George M. Baldwin
Jack L. Sollis
Glen Jackson
Fred Klaboe

NOTED
F. B. KLABOE

RECEIVED
STATE HWY ENGR
MAR 3 '75
REFER TO
GG
FOR
Info | Inves | R/D | D R | Sign | A.

8053

R

FORM E-80

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem

DATE January 2, 1975

TO R. N. Bothman
Metropolitan Engineer

FROM C. T. Keasey
Construction Engineer

SUBJECT Motorist Information Signing
Interstate Routes I-5 and I-80N
Statewide

Attached is a letter and data from L. E. George regarding the field survey work needed for development of a contract to install LOGO sign footings throughout the State on Interstate routes where that signing is currently nonexistent or in need of modification.

As we discussed by phone, please organize two three-man survey crews to accomplish this task as soon as possible.

These two crews are to obtain the needed cross-sections and information for the entire highway route to which they are assigned, from Portland to the Oregon-Idaho State Line on I-80N and from the Columbia River to the California border on I-5.

Short-term per diem is authorized as required for the duration of this project.

CTK:ia

Att.

cc H. S. Coulter
E. S. Hunter
V. D. Wolfe
L. E. George
Regional Engineers

OREGON STATE HIGHWAY DIVISION

INTER-DEPARTMENT CORRESPONDENCE

Salem, Oregon 97310

DATE December 24, 1974

TO C. T. Keasey
Construction Engineer

FROM L. E. George
Traffic Engineer

SUBJECT Motorist Information Signing
Interstate Routes 5 & 80N
Statewide

As you are aware, the Federal Government may recall for redistribution all outstanding, unused obligational authority as early as March, 1975. To obligate part of these funds, it is our desire to work up a project to contract the footings and supports for Motorist Information Signs at locations where there is a high potential for future LOGO panel sales. To accomplish this task in the short time available, we are asking your assistance in obtaining the necessary field work that will be required.

This summer, we received a transmittal from the Federal Highway Administration that set up guidelines for future Motorist Information Sign installations. The new guidelines call for the sign to be installed near the right of way line and are increased in size to be readable from the traveled way. The lineal locations have been revised to start at the gore point rather than the advance guide sign. The sequence of signs is the same as before, except that a new "CAMPING" sign has been added to the series.

The last panel shall be located no closer than 1/2 mile from the theoretical gore point approaching the interchange with at least 1000 foot spacing between the information panels. These spacings will have to be adjusted in many areas to obtain visibility due to trees and other roadside objects. The terrain will affect the locations of the signs because signs cannot be located near the right of way line in areas of steep cuts or fills.

Attached is a tabulation of possible sign locations under the new Federal regulations useing the information that was available to the Traffic Section. No attempt was made to adjust the spacings due to the reasons outlined in the preceding paragraph. A sketch showing the installation spacing is included with the inventory listing.

The red shading indicates interchanges where no LOGO sales potential exists, so no work will be required. The yellow shading indicates locations where existing signs are in place. The green shading indicates the motorist service panels that we desire to install the footings and fabricate the sign posts under this project.

The attached correspondence indicates the sequence of events that have occurred between the Highway Division and the Federal Highway Administration. The Division Office of the FHWA has been advised that we will install information panels at their ultimate locations. Therefore, when additional services are available and LOGO's sold, space will be available for their installation. Also, all existing signs can be moved to their ultimate location when the need arises on a maintenance basis. In the isolated cases where the existing information panels conflict with the installation of proposed signs, the existing signs will be removed and be replaced by a new enlarged sign at the ultimate location.

We would be very appreciative if your survey crews could locate the signs for us as outlined in this letter and the attachments. We will require the interchange name, approximate milepost and station, and a cross-section of sufficient accuracy to design the steel sign supports. On the cross-section should be noted if guardrail exists at that location. An arrow should be painted on the shoulder at the selected location so future crews can locate the proposed location. A photo of the area would be useful to our design engineer.

Employees of the Traffic Section will be available to answer your questions and to give further instructions if required.

ELS:pb

Attachment

Buz Swan will supply prefixes for prelim. engineering.

file copy

OREGON STATE HIGHWAY DIVISION

File: TRA 7

NOTED
H. S. COULTER

HIGHWAY BUILDING • SALEM, OREGON • 97310

TOM McCALL
GOVERNOR

F. B. KLABOE
Administrator of Highways

November 20, 1974

TO Glen L. Green, Division Engineer
Federal Highway Administration

FROM for H. S. Coulter
Assistant State Highway Engineer

SUBJECT Oregon Logo Signing
Your File 1041DA/520.61

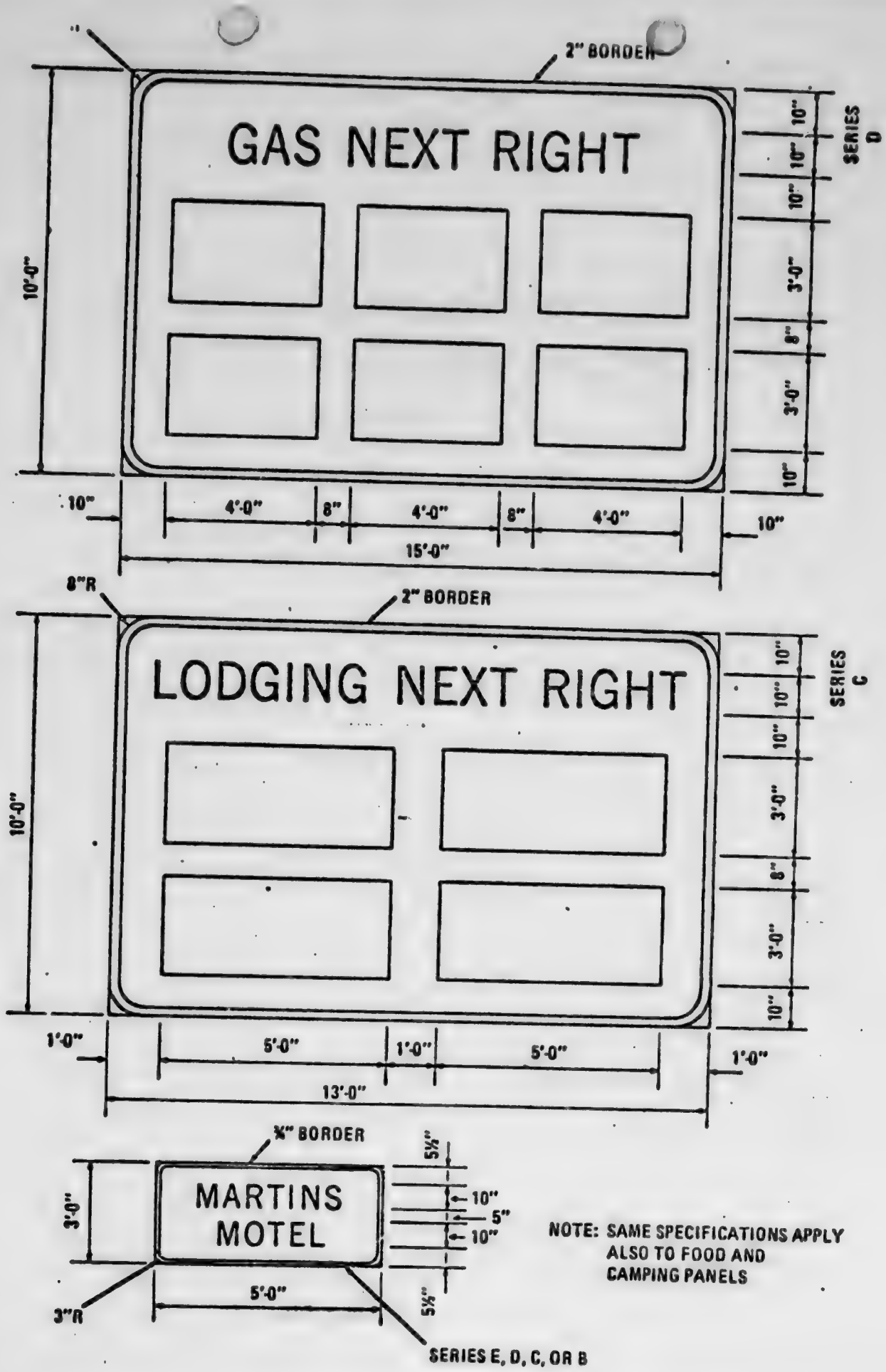
In a letter dated November 11 from your office signed by E. J. Valach, concurrence was given that the installations which meet the national standards for LOGO signs would be appropriate in accordance with the inventory submitted to your office on October 11.

Tentative approval was requested initially on those locations listed on the inventory in order that the Travel Information Council's personnel might conduct selling operations in the field for those locations at which LOGO panels are not currently installed. Subject to meeting national standards for spacing requirements, we will assume that TIC can proceed with their sales effort, operating on the assumption that LOGO sign installations will be approved if they can be installed properly.

My original letter of October 11 also proposed a method of installing new LOGO signs at locations that already had a partial installation. The suggestion contained in your letter is agreeable to the Highway Division and will be followed in making new sign installations in combination with existing units. Tentative approval is also requested for the concept of making scattered LOGO sign installations via State forces. It is expected that many of the new LOGO installations will be so scattered geographically that it will not be feasible to contract these units. Would you please advise us.

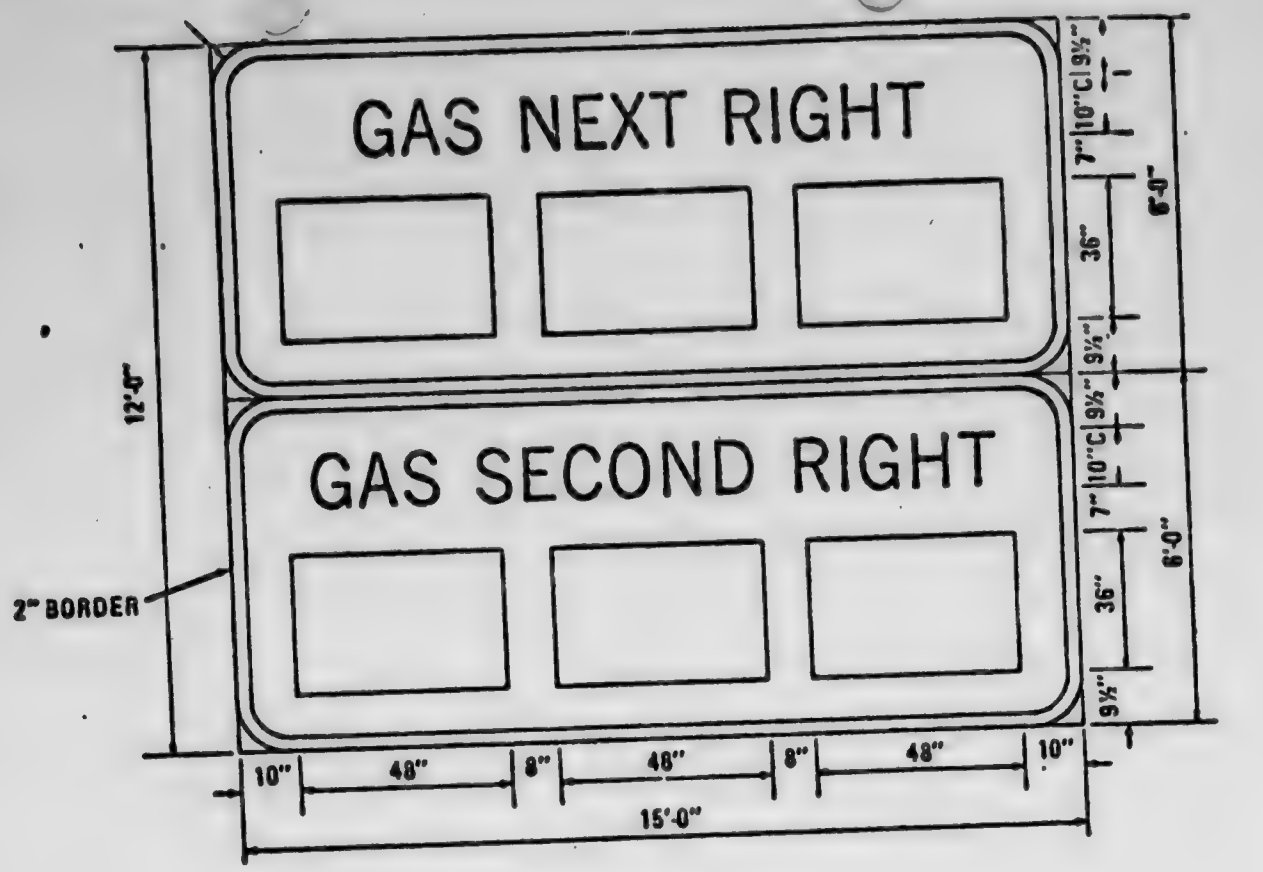
bc F. B. Klaboe
A. E. Johnson
R. L. Schroeder
L. E. George
Jack Sollis
E. E. Beckman

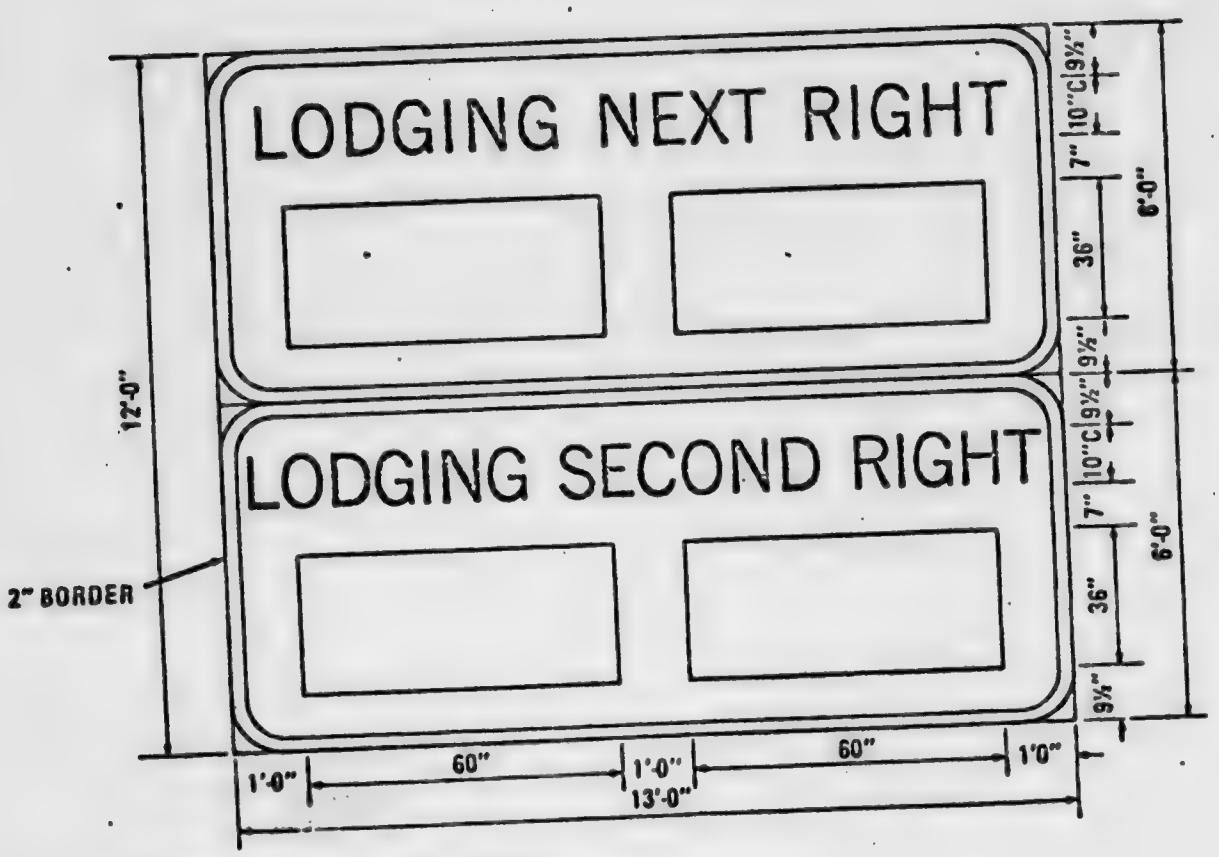
LEG:pb ia



NOTE: SAME SPECIFICATIONS APPLY ALSO TO FOOD AND CAMPING PANELS

FIGURE 8-2 • SPECIFIC INFORMATION PANEL FOR SINGLE EXIT INTERCHANGE





NOTE: SAME SPECIFICATIONS APPLY
ALSO TO FOOD AND CAMPING PANELS

FIGURE 8-4 - SPECIFIC INFORMATION PANEL FOR DOUBLE EXIT INTERCHANGE

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

RECEIVED
STATE HWY ENGR
NOV 12 74
REFER TO
Coulter
FOR
Dist. | Area | RND | DR | Green | Art | File

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

2

DATE: November 11, 1974

In reply refer to: 1041DA/520.61

SUBJECT: Oregon Logo Signing

FROM : G. L. Green, Division Engineer

NOTED
H. S. COULTER

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. Coulter's October 11, 1974 letter requested:

1. FHWA concurrence in future installations of logo sign panels in accordance with the inventory included with his October 11, 1974 letter.

2. FHWA concurrence in a described procedure for handling situations for new logo signs where some logo signing under the old logo standards are in place. The request includes concurrence in FAI funding of revisions to existing logo signs under certain conditions.

In response to the first request, we concur that those installations which meet the national standards will be approved. Until experience is gained in the actual application of the new standards, we would prefer to retain a preliminary review of new signing proposals. We would be prepared to organize our activities to assure no unnecessary delay in the orderly advancement of such proposals.

Your second request reflects a desirable goal to minimize the complete replacement of recent logo sign installations under the original standards. As an alternative to your suggested procedures, a procedure could be followed that for any new logo installation where some old signs now exist the first attempt would be to install the new sign to the new standards in size and transverse location within the right of way and in the ultimate location longitudinally. In establishing the longitudinal location space would be provided for ultimate location of replacements for the existing old standard logos. Such a procedure could result in an interim change in the sequence by which information is presented, i.e. "Camping" could follow "Gas" in direction of travel. No adverse operational problems are apparent from such a change in sequence. We would appreciate your evaluation of this alternative.

cy Jack Sollis

In further response to your letter, FAI funds can participate in the removal of the old standard logo signs with salvage credit where such removal specifically results from application of the new standards and the sign to be removed is to be replaced by a new standard sign.

for G. L. Green

cc:
Region (10ED.2)
OSHD (L E George)

8253

R

LEE JOHNSON
ATTORNEY GENERAL

JAMES W. DURHAM
DEPUTY ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
TRIAL DIVISION
106 STATE OFFICE BUILDING
SALEM, OREGON 97310
TELEPHONE: (503) 378-6313

NOTED
H. S. COULTER

November 27, 1974

Scott Coulter
Assistant State Highway Engineer
State Highway Building
Salem, Oregon 97310

Re: Logo Program

Dear Mr. Coulter

It has become apparent within the last couple of weeks that the Logo program is going over very well and a great many applications are being received especially on I-5 for which there are no backboards. These applications are not being received as a result of the sales campaign put on by the PIC as they are primarily concerned with filling the existing boards but with applications that are coming in at the impetus of the owners.

Some examples are Shell Oil Company which has ordered 25, Exxon which has ordered 25, Texaco which has ordered 14, 6's Motels are going to apply for all of their motels on the freeway, Stuckey's Restaurants are going to apply for 6, Dairy Queen has taken 75 applications, I don't know how many of them they will utilize but they indicated they wanted 1 for every Dairy Queen Restaurant located on an interchange.

There are also individual applications being requested on a rather steady basis especially on I-5.

In addition to this I imagine that every campground on I-5 will want to get on the Logo boards by next summer.

This sort of shoots down in flames the program we had discussed earlier of filling the existing backboards and then going down I-5 in 3 units and maybe I-80N in 3 units for new contracts.

I would suggest that as soon as possible myself, Mr. George, Mr. Beckman and Patty Calcaterra meet with you to discuss this problem and how we should approach it.

RECEIVED
NOV 29 1974
Office of
Assistant State Highway Engineer

I suppose a meeting should not be held until after we have heard back from the Federal Highway Administration on your lastest letter which was sent over by Mr. Kesee (Keasey) in your absence.

It does appear that we will have a great many requests on I-5 all the way from Portland on down to the California border for which we do not have backboards.

Sincerely

Jack L. Sollis
Assistant Attorney General

kp
cc: L.E. George
E.E. Beckman
Patty Calcaterra

I think it appropriate to tabulate
1. Locations where logos can be added to existing backboards
2. Locations where new backboards can be easily installed we may already have FHWA approval, for instance
3. Locations where we believe we can get FHWA approval for installing backboards
4. Locations where installation of logos may be delayed or inappropriate because of,
   a. Anticipated delay in FHWA approval.
   b. Physical restrictions to backboard installation.
   c. Backboard installation and use of logos is not appropriate.

(An example of a. could be Market St. Xchange
b. could be Jantzen Xchange
c. could be Battle Cr. Xchange, Hayesville Xchange)

I would also suggest that applicants should be advised of our ability to respond to each application and that we should try and obtain any needed field information fairly soon to avoid delay in working up any new contracts for new backboards for conditions 2. and 3. above. —

Scott

cy Sollis, George, Beckman, P. Calcaterra
11-29-74

8253

R

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: December 2, 1974

In reply refer to: 1041EC.2/520.61

SUBJECT: Oregon Logo Signing

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

Mr. H. S. Coulter, in a November 20 letter on the above subject, requested tentative approval of the concept of making scattered sign installations via State forces. We can, of course, approve the installations by State forces; however, each proposal in addition to meeting the program requirements for that type of project must contain sufficient justification to support a finding that construction by that method is in the public interest.

G. L. Green

cc:
OSHD (Keasey)

RECEIVED
DEC 4 1974
Office of
State Highway Engineer

12-4-74

NOTED
H.S. COULTER

STATE ENGR
DEC 3'74
REFER TO
Coulter
FOR

8353

RTRA 7-5

File No._____
Rd. No.____ M.P._____
City of_____
Streets_____
Rural_____ Urban_____

October 11, 1974

Mr. Glen L. Green
Division Engineer
Federal Highway Administration
P.O. Box 300
Salem, OR 97308

Dear Mr. Green:

Attached is an inventory of locations showing possible logo sign panel installations based upon the new standards issued by the Federal Highway Administration in July 1974. The possible installations are shown under the columns marked "G", "F", "L" and "C" and are based upon the revised spacing standards. The inventory is based upon the records maintained in the Traffic Engineering Section and has not been field checked for possible physical obstructions that would preclude the installation of the sign panels.

The purpose of this letter is to request your approval for the future installation of sign panels at the possible locations shown on the inventory, subject to the absence of physical obstructions that would preclude the installation of the panels. Business panels have not been solicited at many of the locations shown. However, advance approval of the locations will permit the installation of both the sign panels and the business panels in a rapid and orderly manner when necessary.

It is expected that a problem will be encountered on completed sections where logo signing has been installed based on the old standards. The Highway Division proposes to observe the following procedure in the installation of new logo signs on old sections.

1. If only one logo sign exists in any direction at an interchange, the existing logo sign would be removed and both the existing sign and any new ones to be installed would be installed based on the revised standards issued in July 1974.

2. If more than one logo sign panel exists in any direction at any interchange, the subsequent logo sign panels would be installed based on the old standards of spacing but not of size.

Your consideration and approval of the proposed procedure as outlined is requested. It is also requested that any revisions of existing logo sign revisions as outlined in No. 1 above be subject to normal federal-aid participation.

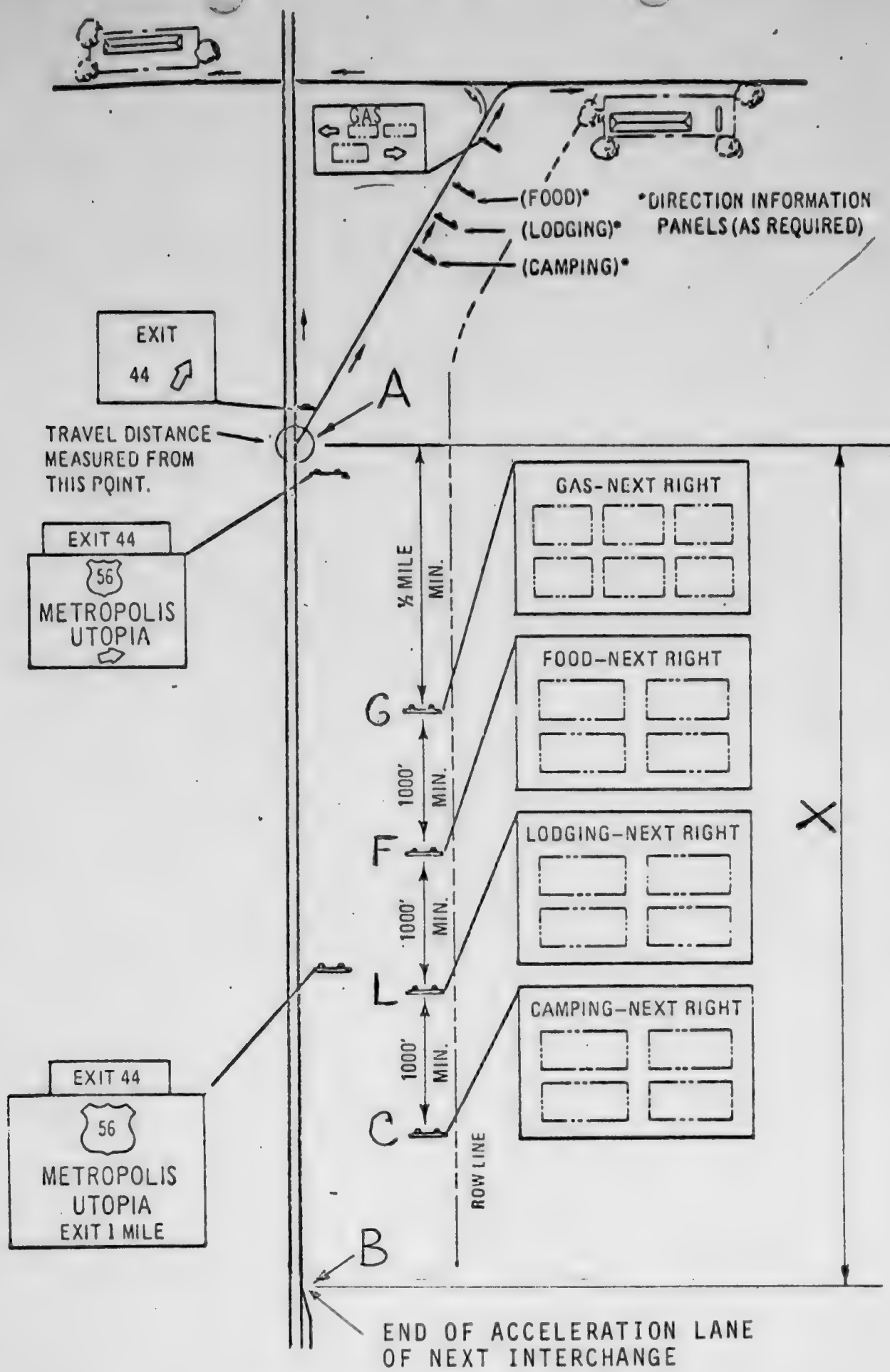
Very truly yours,

H. S. Coulter
Assistant State Highway Engineer

LEG:kw
Attachment

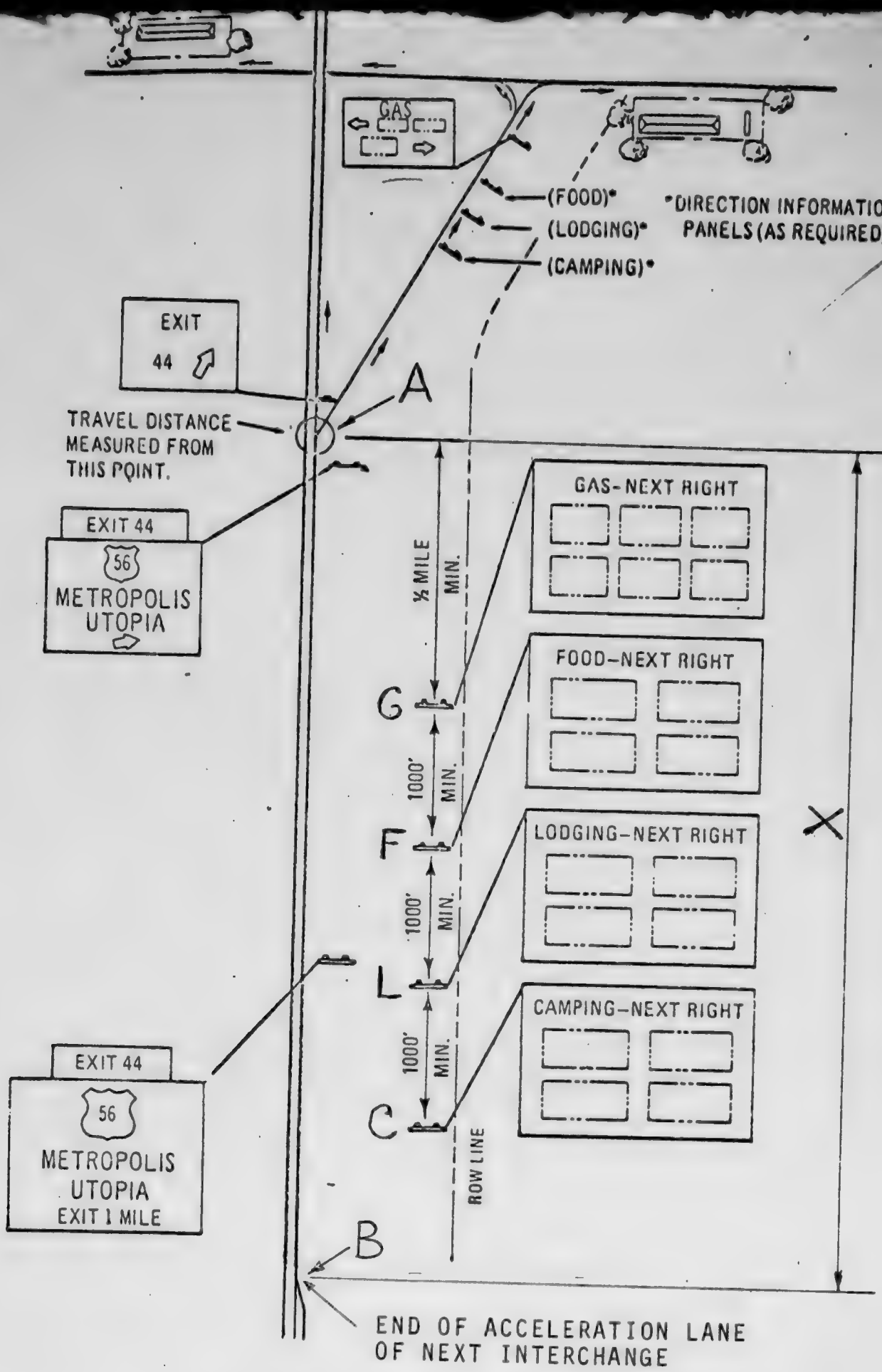
bc: F. B. Klaboe
A. E. Johnson
L. E. George
J. L. Sollis
Patty Calcaterra

GUIDE FOR LOGO SIGN TABULATIONS



EXPLANATION OF LETTERS & NOTES

A = Theoretical gore point of exit ramp.
B = End of acceleration lane of next interchange.
X = Total distance between interchanges for LOGO signs.
G = Location of "GAS" LOGO sign.
F = Location of "FOOD" LOGO sign.
L = Location of "LODGING" LOGO sign.
C = Location of "CAMPING" LOGO sign.
1/= Location of contracted or existing LOGO sign.
2/= No return ramp to freeway.
3/= No exit ramp from freeway.
4/= Interchange not to interstate standards.
5/= Interchange under construction.
6/= Interchange scheduled for re-construction.
N.S.= No space for LOGO signs.



EXPLANATION OF LETTERS & NOTES

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G = Location of "GAS" LOGO sign.
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C = Location of "CAMPING" LOGO sign.
1/ = Location of contracted or existing LOGO sign.
2/ = No return ramp to freeway.
3/ = No exit ramp from freeway.
4/ = Interchange not to interstate standards.
5/ = Interchange under construction.
6/ = Interchange scheduled for re-construction.
N.S. = No space for LOGO signs.

INTERSTATE ROUTE 80N
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

		EASTBOUND							WESTBOUND				
INTCHGE. NAME	STRUCT. M.P.	A	B	X	G	F	L	C	A	B	X	G	F
Sundial-Troutdale	17.37	16.75	16.42	0.33	N.S.	N.S.	N.S.	N.S.	17.52	17.75	0.23	N.S.	N.S.
Jordon	17.82	17.88	17.60	0.28	N.S.	N.S.	N.S.	N.S.	18.05	21.72	3.67	18.55	18.7
Corbett	22.10	21.92	18.14	3.78	21.42	1/20.43 21.23	21.04	20.85	22.25	24.73	2.48	22.75	1/23.2 23.1
Rooster Rock	24.99	24.69	22.44	2.25	24.18	23.99	23.80	23.61	25.13	29.12	3.99	25.63	25.8
Bridal Veil	28.08	2/							3/				
Multnomah Falls	31.39	31.19	28.08	3.11	30.53	30.34	30.15	29.96	31.53	35.07	3.54	32.03	32.2
Dodson	35.15	35.26	30.91	4.35	34.76	34.57	34.38	34.19	35.53	37.38	1.85	36.03	36.2
Warrendale	37.12	2/							3/				
Bonneville	40.27	40.17	37.73	2.41	39.67	39.48	39.28	39.10	40.53	43.36	2.83	41.03	41.5
Cascade Locks East & West	43.66	43.44	41.97	1.47	42.94	42.75	42.56	42.37	45.21	47.32	2.11	45.71	45.9
Herman Creek Rd.	47.31	2/							3/				
Wye	50.99	50.85	45.47	5.38	50.35	50.16	49.97	49.78	51.14	55.74	4.60	51.64	51.8
Viento Park	56.04	55.88	55.13	0.75	55.38	55.19	N.S.	N.S.	56.22	59.94	3.72	56.72	56.9
Mitchell Point	56.96	3/							2/				
Ruthton Point	60.65+	3/							60.73	61.74	1.01	61.23	61.4
West Hood River	62.06	61.93	58.70	3.23	61.43	61.24	61.05	60.85	62.18	63.58	1.40	62.68	62.8
2nd Street	63.92	63.76	62.43	1.33	63.26	63.07	62.88	62.69	64.02	64.19	0.17	N.S.	N.S
East Hood River	64.44	64.31	64.31	0.00	N.S.	N.S.	N.S.	N.S.	64.59	69.66	5.07	65.08	65.2
Mosier	69.79	69.68	64.84	4.84	69.18	68.99	68.80	68.61	69.95	72.84	.89	70.45	70.2
Rowena	76.62	76.52	73.29	3.23	76.02	5.83	75.64	75.45	76.85	83.28	6.43	77.35	77.1

INTERSTATE ROUTE 80N
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

	EASTBOUND							WESTBOUND						
CT.	A	B	X	G	F	L	C	A	B	X	G	F	L	C
.37	16.75	16.42	0.33	N.S.	N.S.	N.S.	N.S.	17.52	17.75	0.23	N.S.	N.S.	N.S.	N.S.
82	17.88	17.60	0.28	N.S.	N.S.	N.S.	N.S.	18.05	21.72	3.67	18.55	18.74	18.93	19.12
.10	21.92	18.14	3.78	21.42	1/20.43 21.23	21.04	20.85	22.25	24.73	2.48	22.75	1/23.20 23.16	23.35	23.54
.99	24.69	22.44	2.25	24.18	23.99	23.80	23.61	25.13	29.12	3.99	25.63	25.82	26.01	26.20
.08	2/							3/						
.39	31.19	28.08	3.11	30.53	30.34	30.15	29.96	31.53	35.07	3.54	32.03	32.22	32.41	32.60
.15	35.26	30.91	4.35	34.76	34.57	34.38	34.19	35.53	37.38	1.85	36.03	36.22	36.41	36.60
.12	2/							3/						
.27	40.17	37.73	2.41	39.67	39.48	39.28	39.10	40.53	43.36	2.83	41.03	41.58W	41.77W	42.02
.66	43.44	41.97	1.47	42.94	42.75	42.56	42.37	45.21	47.32	2.11	45.71	45.90	46.09	46.36
.31	2/							3/						
.99	50.85	45.47	5.38	50.35	50.16	49.97	49.78	51.14	55.74	4.60	51.64	51.83	52.02	52.21
.04	55.88	55.13	0.75	55.38	55.19	N.S.	N.S.	56.22	59.94	3.72	56.72	56.91	57.10	57.29
.96	3/							2/						
.65+	3/							60.73	61.74	1.01	61.23	61.42	61.61	N.S.
2.06	61.93	58.70	3.23	61.43	61.24	61.05	60.85	62.18	63.58	1.40	62.68	62.87	63.06	63.25
3.92	63.76	62.43	1.33	63.26	63.07	62.88	62.69	64.02	64.19	0.17	N.S.	N.S.	N.S.	N.S.
4.44	64.31	64.31	0.00	N.S.	N.S.	N.S.	N.S.	64.59	69.66	5.07	65.08	65.28	65.47	65.98
.79	69.68	64.84	4.84	69.18	68.99	68.80	68.61	69.95	72.84	.89	70.45	70.64	70.83	71.02
.62	76.52	73.29	3.23	76.02	75.83	75.64	75.45	76.85	83.28	6.43	77.35	77.54	77.73	77.92

INTERSTATE ROUTE 80N
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

		EASTBOUND							WESTBOUND				
INTCHGE. NAME	STRUCT. M.P.	A	B	X	G	F	L	C	A	B	X	G	F
Chenoweth Creek	82.62	82.11	76.97	5.14	81.61	81.42	81.23	81.04	3/				
West The Dalles	83.68	83.49	82.30	1.19	82.99	82.80	82.61	82.42	3/				
West 2nd Street	84.15	84.03	83.82	0.21	N.S.	N.S.	N.S.	N.S.	84.20	85.15	0.95	84.70	84.89
Brewery Grade	85.51	85.33	84.25	1.08	84.83	84.64	84.45	84.26	85.70	86.66	0.96	86.20	86.39
The Dalles Bridge	87.01	86.82	85.85	0.97	86.32	86.13	85.94	N.S.	87.18	88.56	1.38	87.68	87.87
The Dalles Dam	88.83	88.71	87.35	1.36	88.21	88.02	87.83	87.64	88.97	96.81	7.84	89.47	89.66
Celilo	97.14	97.00	89.14	7.86	96.50	96.31	96.12	95.93	97.30	104.25	6.95	97.80	97.99
Biggs	104.56	104.37	97.44	6.93	103.87	103.68	1/102.80 103.49	103.30	104.76	109.59	4.83	105.26	105.45
Rufus	109.95	109.82	104.90	9.42	1/108.55 109.32	109.13	108.94	108.75	110.15	111.87	1.72	1/111.40 110.65	110.84
West John Day	114.23	114.17	112.51	1.66	113.67	113.48	113.29	113.10	114.35	123.00	8.65	114.85	115.04
Quinton	123.31	123.14	114.45	8.69	122.64	122.45	122.26	122.07	123.44	128.99	5.55	123.94	124.13
Blalock	129.43	129.25	123.68	5.57	128.75	128.56	128.37	128.18	129.68	136.12	6.44	130.18	130.27
Woelpern	131.03	2/							3/				
Arlington	137.93	137.50	131.09	6.43	1/135.53 137.02	136.83	136.64	136.45	138.15	147.01	8.86	1/140.68 138.65	138.84
Heppner Jct.	147.35	147.17	138.33	8.84	146.67	146.48	146.29	146.10	147.56	151.41	3.85	148.06	148.25
Three Mile Canyon	151.75	151.54	147.77	3.77	151.04	150.85	150.66	150.47	151.93	158.97	7.04	152.43	152.62
Tower Rd.	159.30	159.15	152.12	7.03	158.65	158.46	158.27	158.08	159.44	160.58	1.14	159.94	160.13
Boardman	164.16	163.95	161.25	2.70	1/161.67 163.45	163.26	163.07	162.88	164.36	167.61	3.25	1/166.62 164.85	165.05

INTERSTATE ROUTE 80N
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

STRUCT. M.P.	EASTBOUND A	B	X	G	F	L	C	WESTBOUND A	B	X	G	F	L	C
82.62	82.11	76.97	5.14	81.61	81.42	81.23	81.04	3/						
83.68	83.49	82.30	1.19	82.99	82.80	82.61	82.42	3/						
84.15	84.03	83.82	0.21	N.S.	N.S.	N.S.	N.S.	84.20	85.15	0.95	84.70	84.89	85.08	N.S.
85.51	85.33	84.25	1.08	84.83	84.64	84.45	84.26	85.70	86.66	0.96	86.20	86.39	86.58	N.S.
87.01	86.82	85.85	0.97	86.32	86.13	85.94	N.S.	87.18	88.56	1.38	87.68	87.87	88.06	88.25
88.83	88.71	87.35	1.36	88.21	88.02	87.83	87.64	88.97	96.81	7.84	89.47	89.66	89.85	90.04
97.14	97.00	89.14	7.86	96.50	96.31	96.12	95.93	97.30	104.25	6.95	97.80	97.99	98.18	98.37
104.56	104.37	97.44	6.93	103.87	103.68	1/102.80 103.49	103.30	104.76	109.59	4.83	105.26	105.45	1/106.36 105.64	105.83
109.95	109.82	104.90	9.42	1/108.55 109.32	109.13	108.94	108.75	110.15	111.87	1.72	1/111.40 110.65	110.84	111.03	111.22
114.23	114.17	112.51	1.66	113.67	113.48	113.29	113.10	114.35	123.00	8.65	114.85	115.04	115.23	115.42
123.31	123.14	114.45	8.69	122.64	122.45	122.26	122.07	123.44	128.99	5.55	123.94	124.13	124.32	124.51
129.43	129.25	123.68	5.57	128.75	128.56	128.37	128.18	129.68	136.12	6.44	130.18	130.27	130.45	130.65
131.03	2/							3/						
137.93	137.50	131.09	6.43	1/135.53 137.02	136.83	136.64	136.45	138.15	147.01	8.86	1/140.68 138.65	138.84	139.03	139.22
147.35	147.17	138.33	8.84	146.67	146.48	146.29	146.10	147.56	151.41	3.85	148.06	148.25	148.44	148.65
151.75	151.54	147.77	3.77	151.04	150.85	150.66	150.47	151.93	158.97	7.04	152.43	152.62	152.81	153.00
159.30	159.15	152.12	7.03	158.65	158.46	158.27	158.08	159.44	160.58	1.14	159.94	160.13	160.32	160.51
164.16	163.95	161.25	2.70	1/161.67 163.45	163.26	163.07	162.88	164.36	167.61	3.25	1/166.62 164.85	165.05	165.24	165.43

INTERSTATE ROUTE 80N
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

INTCHGE NAME	STRUCT. M.P.	EASTBOUND A	B	X	G	F	L	C	WESTBOUND A	B	X	G	
Irrigon	168.00	167.62	164.54	3.06	167.12	166.93	166.74	166.55	168.19	177.69	9.50	168.69	168
Ordnance	177.98	177.83	168.06	9.77	177.33	177.14	176.95	176.76	178.30	180.02	1.72	178.80	178
Westland Rd.	180.40	180.26	178.13	2.13	179.76	179.57	179.38	179.19	180.53	182.46	1.93	181.03	181
Hermiston	182.86	182.65	180.78	1.87	182.15	181.96	181.77	181.58	183.01	186.13	3.12	183.51	183
Stanfield Jct.	188.83	188.68	186.84	1.84	1/187.42 188.18	187.99	187.80	187.61	188.94	193.09	4.15	1/190.21 189.44	183
Echo Jct.	193.53	193.30	189.20	4.10	192.80	192.61	192.42	192.23	193.71	198.19	4.48	194.21	194
Rew	198.54	198.37	193.86	4.51	197.87	197.68	197.49	197.30	198.70	199.15	0.45	N.S.	N.
Yoakum Rd.	199.72	199.36	198.89	0.47	N.S.	N.S.	N.S.	N.S.	199.70	202.48	2.78	200.20	200
Barnhart	202.87	202.70	199.91	2.79	202.20	202.01	201.82	201.63	203.04	207.03	3.99	203.54	203
West Pendleton	207.47	207.14	203.26	3.88	206.64	206.45	206.26	206.07	207.83	209.05	1.22	208.33	208
Emigrant Ave.	209.54	209.38	207.79	1.59	208.88	208.69	208.50	208.31	209.45	210.54	1.09	209.95	210
South Pendleton	210.96	210.79	209.94	0.85	210.29	210.10	209.91	209.72	211.30	213.11	1.81	1/212.55 211.80	211
East Pendleton	213.05	3/							2/				
Mission Jct.	216.04	215.85	211.36	4.49	215.35	215.16	214.97	214.78	216.27	222.42W	6.15	216.77	216
Emigrant Hill	224.67	224.47	221.67	2.80	223.97	223.78	223.59	223.40	225.09W	228.71	3.62	225.59	225
Deadmans Pass	228.94	228.80	225.03	3.77	228.30	228.11	227.92	227.73	229.09	233.49	4.40	229.59	229
West Emigrant Park& East	233.95	233.86	229.23	4.63	233.36	233.17	232.98	232.79	235.28	238.26	2.98	235.78	235
Meacham	238.77	238.43	235.06	3.37	237.91	237.72	237.53	237.34	239.06	243.62	4.56	239.56	239

INTERSTATE ROUTE 80N
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS USING
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

	EASTBOUND							WESTBOUND						
STRUCT. M.P.	A	B	X	G	F	L	C	A	B	X	G	F	L	C
168.00	167.62	164.54	3.06	167.12	166.93	166.74	166.55	168.19	177.69	9.50	168.69	168.88	169.07	169.26
177.98	177.83	168.06	9.77	177.33	177.14	176.95	176.76	178.30	180.02	1.72	178.80	178.77	179.18	179.37
180.40	180.26	178.13	2.13	179.76	179.57	179.38	179.19	180.53	182.46	1.93	181.03	181.22	181.41	181.60
182.86	182.65	180.78	1.87	182.15	181.96	181.77	181.58	183.01	186.13	3.12	183.51	183.70	183.89	184.08
188.83	188.68	186.84	1.84	1/187.42 188.18	187.99	187.80	187.61	188.94	193.09	4.15	1/190.21 189.44	189.63	189.82	190.01
193.53	193.30	189.20	4.10	192.80	192.61	192.42	192.23	193.71	198.19	4.48	194.21	194.40	194.59	194.78
198.54	198.37	193.86	4.51	197.87	197.68	197.49	197.30	198.70	199.15	0.45	N.S.	N.S.	N.S.	N.S.
199.72	199.36	198.89	0.47	N.S.	N.S.	N.S.	N.S.	199.70	202.48	2.78	200.20	200.39	200.58	200.77
202.87	202.70	199.91	2.79	202.20	202.01	201.82	201.63	203.04	207.03	3.99	203.54	203.73	203.92	204.11
207.47	207.14	203.26	3.88	206.64	206.45	206.26	206.07	207.83	209.05	1.22	208.33	208.52	208.71	208.90
209.54	209.38	207.79	1.59	208.88	208.69	208.50	208.31	209.45	210.54	1.09	209.95	210.14	210.33	210.52
210.96	210.79	209.94	0.85	210.29	210.10	209.91	209.72	211.30	213.11	1.81	1/212.55 211.80	211.99	212.18	212.37
213.05	3/							2/						
216.04	215.85	211.36	4.49	215.35	215.16	214.97	214.78	216.27	222.42W	6.15	216.77	216.96	217.15	217.34
224.67	224.47	221.67	2.80	223.97	223.78	223.59	223.40	225.09W	228.71	3.62	225.59	225.78	225.97	226.16
228.94	228.80	225.03	3.77	228.30	228.11	227.92	227.73	229.09	233.49	4.40	229.59	229.78	229.97	230.16
t233.95	233.86	229.23	4.63	233.36	233.17	232.98	232.79	235.28	238.26	2.98	235.78	235.97	236.16	236.35
238.77	238.43	235.06	3.37	237.91	237.72	237.53	237.34	239.06	243.62	4.56	239.56	239.75	239.94	240.13

INTERSTATE ROUTE 80
E SPECIFIC [illegible] PANEL LOCATIONS U[illegible]
RDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

		EASTBOUND							WESTBOUND				
INTCHGE. NAME	STRUCT. M.P.	A	B	X	G	F	L	C	A	B	X	G	F
Kamela	243.82	243.58	239.30	4.28	243.08	242.89	242.70	242 51	244.03	248.64	4.61	244.53	244.7
Glover	249.00	248.74	243.99	4.75	248.24	248.05	247.86	247 67	249.09	252.49	3.40	249.59	249.7
Hilgard	252.83	252.59	249.34	3.25	252.09	251.90	251.71	251.52	253.27	256.09	2.82	253.77	253.9
Upper & Lower Perry	256.40	256.29	253.15	3.14	255.79	255.60	255.41	255.22	257.40	261.75	4.35	257.90	258.0
West La Grande	259.42	259.26	257.58	1.68	258.92	258.73	258.33	258.14	3/				
Wallowa Lake	261.84	261.89	259.43	2.45	261.39	261.20	261.01	260.82	262.17	264.82	2.65	262.67	262.8
Union Jct.	264.92	264.92	262.32	2.60	264.42	264.19	264.00	263 81	265.26	267.94	2.68	265.76	265.9
Foothill Rd.	268.26	268.07	265.36	2.71	267.57	267.38	267.19	267 00	268.45	268.81	0.36	N.S.	N.S.
Ladd Creek	270.87	2/							3/				
Ladd Canyon	273.91	273.68	270.95	2.73	273.18	272.99	272.80	272 61	274.09	280.30	1.21	274.59	274.7
Clover Valley	280.68	280.48	274.28	6.20	279.98	279.79	279.60	279.41	280.87	283.24	2.37	281.37	281.5
Wol[illegible] Creek	283.64	283.44	281.07	2.37	282.94	282.75	282.56	282 37	283.86	285.38	1.52	284.36	284.5
North Powder	285.68	285.53	284.06	1.47	285.03	284.84	284.65	284.46	285.80	294.72	8.92	286.30	286.4
Chandler Lane	298.68	298.46	295.42	3.04	297.96	297.77	297.58	297.39	298.89	302.32	3.43	299.39	299.5
Richland	302.71	302.52	299.08	3.44	302.02	301.83	301.64	301.45	302.89	303.68	0.79	303.39	303.5
Campbell Street	304.13	303.92	303.10	0.82	303.42	303.23	N.S.	N.S.	304.37	306.44	2.07	304.87	305.0
South Baker	306.53	306.30	304.72	1.31	305.80	305.61	305.42	305.23	306.88	317.39	10.51	307.38	307.5
Encina	313.64	2/							3/				

INTERSTATE ROUTE 80S
[illegible] SPECIFIC [illegible] SIGN PANEL LOCATIONS [illegible]
[illegible]DARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

EASTBOUND							WESTBOUND						
A	B	X	G	F	L	C	A	B	X	G	I	L	C
243.58	239.30	4.28	243.08	242.89	242.70	242 51	244.03	248.64	4.61	244.53	244.72	244.91	245.10
248.74	243.99	4.75	248.24	248.05	247.86	247 67	249.09	252.49	3.40	249.59	249.78	249.97	250.16
252.59	249.34	3.25	252.09	251.90	251.71	251.52	253.27	256.09	2.82	253.77	253.96	254.15	254.34
256.29	253.15	3.14	255.79	255.60	255.41	255.22	257.40	261.75	4.35	257.90	258.09	258.28	258.47
259.26	257.58	1.68	258.92	258.73	258.33	258.14	3/						
261.89	259.43	2.45	261.39	261.20	261.01	260.82	262.17	264.82	2.65	262.67	262.86	263.05	263.24
264.92	262.32	2.60	264.42	264.19	264.00	263 81	265.26	267.94	2.68	265.76	265.95	266.14	266.33
268.07	265.36	2.71	267.57	267.38	267.19	267.00	268.45	268.81	0.36	N.S.	N.S.	N.S.	N.S.
2/							3/						
273.68	270.95	2.73	273.18	272.99	272.80	272 61	274.09	280.30	1.21	274.59	274.78	274.97	275.16
280.48	274.28	6.20	279.98	279.79	279.60	279.41	280.87	283.24	2.37	281.37	281.56	281.75	281.94
283.44	281.07	2.37	282.94	282.75	282.56	282 37	283.86	285.38	1.52	284.36	284.55	284.74	284.93
285.53	284.06	1.47	285.03	284.84	284.65	284.46	285.80	294.72	8.92	286.30	286.49	286.68	286.87
298.46	295.42	3.04	297.96	297.77	297.58	297.39	298.89	302.32	3.43	299.39	299.58	299.77	299.96
302.52	299.08	3.44	302.02	301.83	301.64	301.45	302.89	303.68	0.79	303.39	303.58	303.77	303.96
303.92	303.10	0.82	303.42	303.23	N.S.	N.S.	304.37	306.44	2.07	304.87	305.06	305.25	305.44
306.30	304.72	1.31	305.80	305.61	305.42	305.23	306.88	317.39	10.51	307.38	307.57	308.26	308.45
2/							3/						

INTERSTATE ROUTE 80N
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS [illegible]NG
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED 7/2/74

		EASTBOUND							WESTBOUND				
INTCHGE. NAME	STRUCT. M.P.	A	B	X	G	F	L	[illegible]	A	B	X	G	F
Pleasant Valley	317.47	3/							2/				
Durkee	327.47	327.22	313.62	13.60	326.72	326.53	326.34	326.15	327.62	330.63	3.01	328.12	328
Nelson	330.67	3/							2/				
Weatherby	335.76	335.61	327.79	7.82	335.26	335.07	334.88	334.69	335.89	337.77	1.88	336.39	336
Jordon Creek	338.11	337.97	336.14	1.83	337.61	337.42	337.23	337.04	338.22	340.11	1.89	338.72	338
Dixie	340.42	340.29	338.42	1.87	339.79	339.60	339.41	339.22	340.52	345.16	4.64	341.02	341
Lime	342.91	2/							3/				
North Huntington	345.83	345.65	342.76	2.89	345.15	344.96	344.77	344 58	346.08	352.68	6.60	346.58	346
Benson Creek	353.04	352.88	346.21	6.67	352.38	352.19	352.00	351.81	353.26	355.83	2.57	353.76	353
Olds Ferry	356.17	355.80	353.40	2.40	355.30	355.11	354.92	354.72	356.60	361.79	5.19	357.10	357
Moores Hollow	362.15	361.90	356.27	5.63	361.40	361.21	361.02	360.83	362.29	371.33	9.04	362.79	362
Stanton Blvd.	371.45	371.26	362.48	8.78	370.76	370.57	370.38	370 19	371.64	374.18	2.54	372.14	327
North Ontario	374.55	374.39	371.57	2.82	373.89	373.70	1/371.81 373.51	373.32	374.71	376.28	1.57	375.21	375
Idaho Avenue 5/	376.72	376.51	374.91	1.60	1/375.15 376.01	1/375.00 375.82	1/374.84 375.63	375 44	376.92	377.05	0.13	N.S.	N.S

INTERSTATE ROUTE 80N
POSSIBLE SPECIFIC INFORMATION PANEL LOCATIONS [illegible]NG
STANDARDS OUTLINED IN FHWA TRANSMITTAL 38 DATED [illegible]/12/74

RUCT. .P.	EASTBOUND A	B	X	G	F	L	C	WESTBOUND A	B	X	G	F	L	C
7.47	3/							2/						
7.47	327.22	313.62	13.60	326.72	326.53	326.34	326.15	327.62	330.63	3.01	328.12	328.31	328.50	328.6
0.67	3/							2/						
5.76	335.61	327.79	7.82	335.26	335.07	334.88	334.69	335.89	337.77	1.88	336.39	336.58	336.77	336.9
8.11	337.97	336.14	1.83	337.61	337.42	337.23	337.04	338.22	340.11	1.89	338.72	338.91	339.10	339.2
0.42	340.29	338.42	1.87	339.79	339.60	339.41	339.22	340.52	345.16	4.64	341.02	341.21	341.40	341.5
2.91	2/							3/						
5.83	345.65	342.76	2.89	345.15	344.96	344.77	344 58	346.08	352.68	6.60	346.58	346.77	346.96	347.1
3.04	352.88	346.21	6.67	352.38	352.19	352.00	351.81	353.26	355.83	2.57	353.76	353.96	354.14	354.3
6.17	355.80	353.40	2.40	355.30	355.11	354.92	354.72	356.60	361.79	5.19	357.10	357.29	357.48	357.6
2.15	361.90	356.27	5.63	361.40	361.21	361.02	360.83	362.29	371.33	9.04	362.79	362.98	363.17	363.3
1.45	371.26	362.48	8.78	370.76	370.57	370.38	370 19	371.64	374.18	2.54	372.14	327.33	372.52	372.7
4.55	374.39	371.57	2.82	373.89	373.70	1/371.81 373.51	373.32	374.71	376.28	1.57	375.21	375.40	375.59	375.7
6.72	376.51	374.91	1.60	1/375.15 376.01	1/375.00 375.82	1/374.84 375.63	375 44	376.92	377.05	0.13	N.S.	N.S.	N.S.	N.S.

8254 5 Corners-Lakeview & Hunters 1975
Lodge Rd Sec Kla Falls-Lakeview
(Grading & paving)

8254

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER: 5-151		State: Oregon
PROJECT REPORT NUMBER:	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County: Lake
MODIFICATION NUMBER: 4	5-1-11	Project Number: RS-19-002(1)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17 ,19 75 , is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 480,828.00	$ 483,560.00
Federal funds	$ 412,550.00	$ 414,890.00
Other revisions		

This modification is made for the following reasons:

To include increase in construction engineering costs.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 21st day of May ,19 79 .

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By _____

Asst. State Highway Engineer
(Title)

By For: H. S. Coulter

State Highway Engineer
(Title)

By _____

(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)

For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 927 494

Gen. file

Oregon State Highway Division
Salem, Oregon May 15, 1979

Federal Aid Project
No. RS-19-002(1)

Five Corners-Lakeview Section
Klamath Falls-Lakeview Hwy.
in Lake County

Revised Project Agreement

Type Code 6201
Roadway Paving (MP 92.24 to MP 96.37)
Subtotal on previous estimate of May 3, 1976 $336,427.00

Engineering 48,113.00
Total $384,540.00

Type Code 6201
Roadway Safety (MP 92.24 to MP 96.37)
Total same as previous estimate of Oct. 13, 1976 $ 63,119.00

Type Code X020
Thomas Cr. Bridge #8303A
(Sta. 1462+51.75 to Sta. 1463+08.25)
Total same as previous estimate of May 3, 1976 $ 35,900.00

Length of Roadway. . . . . 4.019 miles
Length of Structure. . . . . 0.011 miles
Total 4.030 miles

Cost of Roadway paving per mile . . . $95,680.52
Cost of Roadway Safety per mile . . . $15,705.15

L

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway (Paving)	$384,541.00	$329,932.00	$54,609.00
Roadway (Safety)	63,119.00	54,156.00	8,963.00
Structure	35,900.00	30,802.00	5,098.00
Total	$483,560.00	$414,890.00	$68,670.00

Group 2 - 61%
Contract No. 8254
Prefix: 19-1050

8254

STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 10-86 ~ 87		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Lake
MODIFICATION NUMBER 3	10-18-76	Project Number RS-19-002(1)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 468,686	$ 480,828
Federal funds	$ 366,463	$ 412,550
Other revisions		

This modification is made for the following reasons: To include approved extra work orders and increase federal aid pro rata to 85.8% (Clause "B") which results in a decrease in previous 100% funding under PL 94-30 to a net of $66,554.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 18th day of October, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E. H. Hunter

Deputy State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
for: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

88717

Oregon State Highway Division
Salem, Oregon October 13, 1976

Federal Aid Project
No. RS-19-002(1)

FIVE CORNERS-LAKEVIEW SECTION

KLAMATH FALLS-LAKEVIEW HWY. IN LAKE COUNTY

Revised Project Agreement Estimate.

Type Code 6201 Roadway Paving (MP 92.24 to MP 96.37) Total same as previous estimate of May 3, 1976		$381,809.00
Type Code 6201 Roadway Safety (MP 92.24 to MP 96.37) Subtotal on previous estimate of July 9, 1975		$ 44,914.00
Additional Approved Items EWO 3 Remove Soft Spots EWO 4 Remove & Replace 48' Culvert	All Required " "	7,787.84 2,909.80
	Increase	$ 10,697.64
	Subtotal	$ 55,611.64
	Engineering	7,507.36
	TOTAL	$ 63,119.00
Type Code X020 Thomas Cr. Bridge #8303A (Sta. 1462+51.75 to Sta. 1463+08.25) Total same as previous estimate of May 3, 1976		$ 35,900.00

Length of Roadway - - - - - - - - - - - -	4.019 miles
" " Structure - - - - - - - - - - -	0.011 mile
TOTAL	4.030 miles
Cost of Roadway Paving Per Mile - - - -	$95,001.00
Cost of Roadway Safety Per Mile - - - -	$15,705.15

SUMMARY OF FUNDS

Description	Total Cost	*Federal Funds	State Funds
Roadway (Paving)	$381,809.00	$327,592.00	$ 54,217.00
Roadway (Safety)	63,119.00	54,156.00	8,963.00
Structure	35,900.00	30,802.00	5,098.00
TOTAL	$480,828.00	$412,550.00	$ 68,278.00

Group 2 - 61%

Contract No. - 8254

Prefix - 19-1050

*Increase federal aid pro rata to 85.8%

8254 STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 5-116		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Lake
MODIFICATION NUMBER 2	5 [illegible] 76	Project Number RS-19-002(1)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 468,686	$ 468,686
Federal funds	$ 366,463	$ 468,686
Other revisions		

This modification is made for the following reasons: July 17
The Project Agreement executed _____, 1975
is modified to increase Federal-aid participation to
100 percent in accordance with PL 94-102,223
Such additional Federal Funds requested total $ 223."
All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 13th day of May, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By [signature]

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By [signature]
(Division Administrator)
For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 895-313

8254

STATE COPY

TO BE COMPLETED BY FHWA
MONTHLY TRANSACTION NUMBER: 5-80
PROJECT REPORT NUMBER:
MODIFICATION NUMBER: 1

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT

5-13-76

Form Approved; O M B No. 04-R2089

State	Oregon
County	Lake
Project Number	RS-19-002(1)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 468,423	$ 468,686
Federal funds	$ 366,258	$ 366,463
Other revisions		

This modification is made for the following reasons:

To include authorized utility work.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 13th day of May, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E. J. Hunter

Asst. State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)

for: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 895-313

Oregon State Highway Di ion
Salem, Oregon, May 3, 1976

Federal-aid Project
No. RS-19-002(1)
Safety

FIVE CORNERS - LAKEVIEW SECTION
KLAMATH FALLS - LAKEVIEW HIGHWAY IN LAKE COUNTY

Revised Project Agreement Estimate.

Type Code 6201
Roadway Paving (M.P. 92.24 to M.P. 96.37)

Subtotal on previous estimate of July 9, 1975		$336,164.00
Additional Approved Items		
Work by City of Lakeview (Water)	Lump Sum	263.00
	Subtotal	$336,427.00
	Engineering	45,382.00
	Total	$381,809.00

Type Code 6201
Roadway Safety (M.P. 92.24 to M.P. 96.37)

Total Same as previous estimate of July 9, 1975 $ 50,977.00

Type Code X020
Thomas Cr. Bridge #8303A (Sta. 1462+51.75 to Sta. 1463+08.25)

Total Same as previous estimate of July 9, 1975 $ 35,900.00

Length of Roadway - - - 4.019 Miles
Length of Structure - - 0.011 Miles
Total - - - - - - - - - - 4.030 Miles
Cost of Roadway (Paving) Per Mile $95,001.00
Cost of Roadway (Safety) Per Mile 12,684.00

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway (Paving)	$381,809.00	$298,535.00	$ 83,274.00
Roadway (Safety)	50,977.00	39,858.00	11,119.00
Structure	35,900.00	28,070.00	7,830.00
Total	$468,686.00	$366,463.00	$102,223.00

Group 2 - - - 61%

Contract No. 8254

Prefix: 19-1050

.8254 STATE COPY R

Form Approved; O.M.B. No. 04-R2089

TO BE COMPLETED BY FHWA MONTHLY TRANSACTION NO. 7-51	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION 7-17-75 **FEDERAL-AID PROJECT AGREEMENT**	STATE OREGON COUNTY Lake PROJECT NO. RS-19-002(1) Safety

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

SR 140, Jct. SR 31 (Lakeview), W. 4.1 mi.

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	6-4-75	4.030
OTHER *(Specify)*		

FUNDS Pro Rata 78.19%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 468,423	$ 366,258

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E S Hunter
Asst. State Highway Engineer
(Title)

By _____
(Title)

By _____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By G. L. Green *(Division Engineer)*

Date executed by Division Engineer _____

Form PR-2 (Rev. 9-74) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 301(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 9, 1975

Federal-aid Project
No. RS-19-002(1) Safety

FIVE CORNERS-LAKEVIEW SECTION
KLAMATH FALLS-LAKEVIEW HIGHWAY
LAKE COUNTY

Project Agreement Estimate.

Type Code 6201
Roadway Paving (M.P. 92.24 to Sta. 96.37)

Mobilization	All Required (60%)		$ 32,856.00
Temporary Protection and Direction of Traffic	All Required (35%)		1,750.00
Temporary Signs	240 sq.ft.	4.00	960.00
Flagmen	252 hour	14.00	3,528.00
Removal of Structures and Obstructions	All Required (20%)		200.00
Embankment in Place	7,900 cu.yd.	2.50	19,750.00
Trench Excavation	142 cu.yd.	9.00	1,278.00
Finishing Roadbed and Slopes	3.11 mile	200.00	622.00
Watering	1,000 M-gal.	7.00	7,000.00
1" - 0 Aggregate Base	21,600 ton	3.60	77,760.00
Class "C" Asphalt Concrete Mixture in Leveling and Base Course	6,500 ton	8.20	53,300.00
Class "C" Modified Asphalt Concrete Mixture	7,000 ton	8.20	57,400.00
Asphalt Cement in Mixture	860 ton	80.00	68,800.00
Portland Cement Additive in Class "C" Modified Mixture	70 ton	73.00	5,110.00
Asphalt in Tack Coat	24 ton	100.00	2,400.00
			$332,714.00

Anticipated Items

Permanent Signing (S.F.)	All Required (50%)	$ 250.00
Permanent Pavement Striping (S.F.)	All Required (60%)	1,200.00
Temporary Erosion Control (E.W.)	All Required (60%)	1,200.00
On-the-Job Trainee (1 @ $800)(E.W.)	All Required	800.00
		$ 3,450.00
	Subtotal	$336,164.00
	Engineering	45,382.00
	Total	$381,546.00

Type Code 6201
Roadway Safety (M.P. 92.24 to M.P. 96.37)

18-inch Culvert Pipe	50 lin.ft.	8.00	$ 400.00
24-inch Culvert Pipe	96 lin.ft.	10.00	960.00
48-inch Culvert Pipe	108 lin.ft.	24.00	2,592.00
48-inch Arch Type Pipe	68 lin.ft.	33.00	2,244.00
Guard Rail, Type 2A	2,000 lin.ft.	9.00	18,000.00
Guard Rail, Type 3	400 lin.ft.	12.50	5,000.00
Guard Rail Anchors, Type 1	16 only	185.00	2,960.00
Extra for Guard Rail Bridge Connections	12 only	165.00	1,980.00
Rail End Pieces, Type C	16 only	118.00	1,888.00
Extra for Asphalt Approaches	66 only	80.00	5,280.00
Guide Posts	70 only	13.00	910.00
Adjusting Manholes	9 only	300.00	2,700.00
	Subtotal		$ 44,914.00
	Engineering		6,063.00
	Total		$ 50,977.00

Type Code X020
Thomas Creek Bridge #8303A (Sta. 1462+51.75 to Sta. 1463+08.25)

Alterations to Existing Structure	All Required		$ 3,000.00
Shoring, Cribbing, Etc.	All Required		2,000.00
Furnish Pile Driving Equipment	All Required		4,500.00
Furnish Treated Timber Piling	320 lin.ft.	5.00	1,600.00
Drive Timber Piles	280 lin.ft.	9.75	2,730.00
15'/20' Precast Deck Panels	6 only	900.00	5,400.00
Lumber and Timber, Treated	4 M-fbm	1,850.00	7,400.00
Metal Rail	100 lin.ft.	50.00	5,000.00
	Subtotal		$ 31,630.00
	Engineering		4,270.00
	Total		$ 35,900.00

Length of Roadway - - - - - - - - - - - 4.019 Miles
Length of (1) Structure - - - - - - - 0.011 Mile

Total 4.030 Miles

Cost of Roadway (Paving) per Mile - - $94,935.55
Cost of Roadway (Safety) per Mile - - $12,684.00

SUMMARY OF FUNDS

Description	Total Cost	Fed. Funds	State Funds
Roadway (Paving)	$381,546.00	$298,330.00	$ 83,216.00
Roadway (Safety)	50,977.00	39,858.00	11,119.00
Thomas Creek Bridge	35,900.00	28,070.00	7,830.00
Total	$468,423.00	$366,258.00	$102,165.00

Group 2 - 61%

Contract No. 8254

Prefix No. 19-1050

FIVE CORNERS-LAKEVIEW SECTION
Nonparticipating - State Work

State Responsibility for Damages	All Required (60%)	$ 600.00

8254

☆U.S. GOV

cc: State (H. S. Coulter, Washington, D.C. (HHO-32)

STATE COPY

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FINAL ACCEPTANCE REPORT

REGION NO.	REPORT NO.	COUNTY	DIVISION
10	2	Lake	Oregon
DATE OF REPORT	**REPORT MADE BY**		**PROJECT NO.**
10-12-78	Vincent J. Tabor, Asst. Area Engineer		RF-32(6) and RS-19-002(1)
COMPLETION DATE	**ACCEPTANCE DATE BY CONTRACT AGENCY**	**TIME ELAPSED**	**CONTRACT TIME**
7-1-76	1-25-78	80 %	300 work days
APPROVED EXTENSIONS	**LOCATION**		
None	SR 31, Lakeview SCL, North 3.3 miles and SR 140, Jct. SR 31 (Lakeview) West 4.1 miles		

*The PR-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, has been submitted.

*A copy of the State's materials certificate is attached to the Division office copy of this report.

There is compliance with section 1.23 of the Regulations pertaining to encroachments on the right-of-way.

REMARKS: *The project has been completed in reasonably close conformity with the approved plans and specifications including authorized changes and extra work.*

The project provides for pavement overlay, shoulder improvements, structure widening, and safety revisions of slopes and appurtenances.

Original overall project costs were estimated at $835,385 and final costs at $816,072 for an underrun of approximately 2 percent.

The project was recommended for acceptance on 12-7-76 with the stipulation that corrective work on flushed areas be completed before formal acceptance.

The flushed areas appear to have stabilized and have not contributed to any particular operational safety problem. The State maintenance forces will continue to monitor the flushed areas and will provide corrective work if required.

RECEIVED
STATE HWY ENGR
NOV '78
REFER TO

COPY SENT
NOV 1 1978
Washington

*NOTE: Not applicable for direct federal projects.

ACCEPTANCE OF PROJECT IS RECOMMENDED		ACCEPTED BY FEDERAL HIGHWAY ADMINISTRATION	
SIGNATURE: Original Signed by D. B. Carter David B. Carter		SIGNATURE: Original Signed By G. K. HOSSNER G. K. Hossner	
TITLE: Area Engineer	DATE	TITLE: Field Operations Engineer	DATE: 11/1/78

FORM FHWA-1446 B (12-73) FORMERLY PR-33E

Previous Editions of PR-33E Will Not Be Used.

8254-19

FORM APPROVED RCS HNG-30-02
OMB NO. 04-R2274

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL HIGHWAY ADMINISTRATION

STATEMENT OF MATERIALS AND LABOR USED BY CONTRACTORS ON HIGHWAY CONSTRUCTION INVOLVING FEDERAL FUNDS

(PPM 20-2 and PPM 40-4)

CARD A

To be completed by Washington Headquarters Personnel

1 | 2–4 | 5–8 | 9–12 | 13–15 | 16 | 18 | 19–22 | 23 | 24 | 25 | 27 | 28 | 30 | 31–33

PART A *(To be completed by FHWA or State Highway Personnel (See instructions on reverse))*

STATE	COUNTY	FEDERAL PROJECT NO.	URBAN ( ) RURAL ✓
Oregon	Lake	RF-32(6)	

ITEM	DESCRIPTION	UNIT	ROADWAY QUANTITY	BRIDGE QUANTITY (Over 20 ft.)
	CONSTRUCTION TYPE CODES		6201	x020
20	FINAL CONSTRUCTION COST	DOL.	709,120	38,270
21	LENGTH OF PROJECT	MILES	7.039	.011

DATE STARTED: August 20, 1975

DATE COMPLETED: July 1, 1976

TOTAL NO. BRIDGES: 1

PART B *(To be completed by contractor - See instructions on reverse) (REMARKS: Attach plain sheet of paper)*

CARD B

30	LABOR	TOTAL MAN HOURS: 22,847	GROSS EARNINGS: $201,464	
22	TOTAL COST OF ALL MATERIALS AND SUPPLIES	DOL.	$216,110	$11,663
9	PETROLEUM PRODUCTS	GAL.	100,763	5,437
1	CEMENT	BBL.	644	

CARD C

2	AGGREGATES PURCHASED	TON.		
92		CU. YD.		
3	BITUMINOUS MATERIAL	GAL.	447,678	
4	LUMBER	THSD BD FT	3.17	4.43

CARD D

5	TIMBER PILING	LIN. FT.		336
7	REINFORCING STEEL	LB.	2,796	5,418
8	STRUCTURAL STEEL	LB.		580
10	EXPLOSIVES	LB.	10,120	

CARD E

11	READY-MIXED CONCRETE	CU. YD.	34	13
12	PREMIXED BITUMINOUS PAVING MATERIALS	TON	23,963	
15	AGGREGATES PRODUCED	TON		
95		CU. YD.		

CARD F

16	MISCELLANEOUS STEEL	LB.		
17	FENCING	LIN. FT.		
18	GUARDRAIL	LIN. FT.	2,225	
19	BRIDGE RAIL	LIN. FT.		325

CARD G

23	FINAL CONTRACT AMOUNT FOR SIGNS	DOL.	1,536	
24	FINAL CONTRACT AMOUNT FOR LIGHTING	DOL.		

Blocks 48-70 to be completed by FHWA Washington Headquarters Personnel

48 | 52 | 53 | 61 | 62 | 70

CARD H — CULVERT ITEMS

ITEM	SIZE (In.)	LGTH. (Lin. ft.)
6	CORRUGATED STEEL CULVERT	
	24	8
	30	24
	48	52

CARD J

13	CONCRETE PIPE	

CARD K

14	CLAY PIPE AND DRAIN TILE	

CARD L

25	CORR. ALUMINUM CULVERT	
	12	18
	18	196
	24	140
	30	18
	48	12

CARD M

26	CAST IRON PIPE	

FORM PR- 47 PREVIOUS EDITIONS ARE OBSOLETE
(REV. 9-74)

INSTRUCTIONS FOR PREPARING AND TRANSMITTING FORM PR–47

GENERAL REQUIREMENTS

Form PR-47 should be transmitted for each highway construction project involving Federal funds except those that consist primarily of the installation of protective devices at railroad grade crossings, those that are constructed on a force account or direct labor basis, Federal-aid Secondary system, highway work under the direct supervision of the Federal Highway Administration, and highway beautification projects financed with 319(b) funds.

Form PR-47 should be transmitted with or in advance of the Final Report required by Federal-Aid Highway Program Manual Vol. 6; Ch. 4; Sec. 2; Sub. Sec. 8.

A separate form should be transmitted for each contract except that data for two or more contracts on the same project may be combined when such contracts are completed at approximately the same time. In case of a combination, the earliest starting date and the latest completion date should be reported. Where a single contract covers more than one project, one form may be prepared, for each project or for the entire contract provided none of the data are duplicated. A Form PR-47 should not be prepared for a contract covering only the purchase of material but the quantity of material should be reported when subsequently included in a construction project. In all cases, **only the original** of Form PR-47, typed or clearly lettered, and **no carbon or "fast" copies,** should be transmitted to the Washington Office.

If nonparticipating work is included in the contract, all data should be combined with the Federal-aid data in preparing the form. Data for any subcontract may be combined by the State or the division office with that for the prime contract if not so combined by the prime contractor. It will be the State's responsibility to see that all prime contract and subcontract costs, material, and man hours have been reported for each contract, and no duplication of data are involved. Quantities of State-furnished materials should be included with contract quantities, and costs of State-furnished materials should be added to Item 20 "Final Construction Cost" and also to Item 22 "Total Cost of All Materials and Supplies". **All quantities should be reported to the nearest whole unit and only in the units specified. All costs should be reported to the nearest dollar.**

Check urban or rural to indicate whether the major cost is for work within an urban area, or in a rural location.

All figures should be verified for reasonableness by State highway department and Federal Highway Administration division office engineers. The total material cost and the total man-hours and gross earnings should bear reasonable relationships to the contract construction amount. Also the quantity of each material reported should be reasonable with respect to the size and nature of the contract and with respect to the quantities of other materials. For example, if a large quantity of reinforcing steel is reported with no cement or ready-mixed concrete, an error of omission in reporting would be indicated.

Generally, the total cost of materials, supplies, and labor should be substantially less than the final construction cost, as the latter also includes costs of equipment ownership, overhead, and profit which are not required to be reported. If the final construction cost is less or only a few percent more than the total cost of materials, supplies and labor, the indication is that the contractor suffered a loss on the project or that there is an error in reporting. In such case, if it is determined that the figures reported are correct, a statement should be made on plain sheet of paper marked "Remarks" to the effect that the contractor actually did suffer a loss.

Part A - INFORMATION TO BE SUPPLIED BY FEDERAL HIGHWAY ADMINISTRATION OR STATE HIGHWAY PERSONNEL (FEDERAL-AID HIGHWAY PROGRAM MANUAL, VOL. 6; CH. 4; SEC. 1; SUB. SEC. 9).

"Final Construction Cost" - Show best estimate of Federal and State costs incurred to date for contract items, extra work performed by contractor, and State-furnished materials.

"Length of Project." - Report official roadway mileage and official bridge mileage.

Part B. - INFORMATION TO BE SUPPLIED BY CONTRACTOR IMMEDIATELY UPON COMPLETION OF CONTRACT

Specific Instructions for the Following Numbered Items:

Item 1 - Report number of barrels of cement used on project. Do not report here the cement included in Item 11.

Items 2 and 92 - Report quantity of aggregates purchased from commercial producers, such as sand, gravel, crushed stone, etc. Do not report here, aggregates included in Items 11 and 12. Aggregates produced by the contractor shall be reported as Item 15 or 95.

Item 3 - Report number of gallons of bitumens such as asphalt and tar. Do not report here, bituminous materials included in Item 12.

Item 4 - Report all lumber products purchased for and used on the project, including plywood and pressed wood, but excluding timber piling, lumber in fencing, guardrail, and signs, and lumber purchased for or used on previous projects and previously reported. The quantity of lumber should be reported as the number of **thousand board feet and not as the number of board feet.**

Item 5 - Report timber piling in linear feet, regardless of size.

Item 6 - Report, by size, regardless of class, type, gauge or coating, number of linear feet of corrugated steel pipe, structural plate pipe, pipe-arches and arches.

Item 7 - Report total number of pounds of reinforcement for both structures and pavement. Include estimated quantities of reinforcing and prestressing steel in purchased precast units, except concrete pipe reinforcement.

Item 8 - Report total number of pounds of all structural steel, steel H-piling, and sheet piling.

Item 9 - Report total number of gallons of all gasoline, diesel oil, lubricating oil, and grease for equipment and trucks. For conversion purposes use factor of 8 pounds of grease per gallon.

Item 10 - Report total number of pounds of explosives, exclusive of caps and fuses.

Item 11 - Report total number of cubic yards of ready-mixed concrete plus estimated quantity of concrete in purchased precast units, excluding Item 13.

Item 12 - Report total number of tons of bituminous paving mixtures that are purchased in a prepared condition ready for placement as they reach the job

Item 13 - Report, by size, regardless of class, type, gauge or coating, total number of linear feet of plain and reinforced concrete drain and culvert pipe.

Item 14 - Report, by size, total number of linear feet of clay pipe and drain tile.

Items 15 and 95 - Report total quantity of aggregates such as sand, gravel, crushed stone, etc., produced by the contractor.

Item 16 - Report estimated total weight of steel products not appropriate for Items 6, 7, and 8, such as joint devices, tubular piling, etc.

Items 17, 18 and 19 - Report total lengths, in linear feet, of all types of fencing, guardrail and bridge rail.*

Item 22 - This should be the total cost, at the jobsite, of all construction materials and supplies purchased for and used on the project, including the cost of materials for signing and lighting and the cost of any materials and supplies not specifically listed hereon. Costs of equipment or equipment rental and the cost of operating the equipment, except the costs of fuel and lubricants, should not be included in this item. Small items of equipment such as jackhammers, handtools, repair parts, tires, etc., are not considered to be supplies. Costs of such items and also overhead costs should not be included. The amount included here for aggregates produced should be only the cost paid by the contractor for the aggregates and should not include the costs of excavating, processing, loading and hauling. Wages and man-hours for aggregates produced should, of course, be included with item 30

Item 23 - Report final contract amount for all types of signs including foundations, posts, structural supports, etc. Do not include traffic signals.*

Item 24 - Report final contract amount for highway and bridge lighting including foundations, conduits, standards, wiring, switches, luminaires, etc. Do not include traffic signals.*

Item 25 - Report, by size, number of linear feet of corrugated aluminum culvert.

Item 26 - Report, by size, number of linear feet of cast iron pipe.

Item 30 - Report total man-hours worked by, and earnings of all contractor's employees on the project, including those on operation and maintenance of equipment.

*Quantities of steel, concrete and lumber used in connection with Items 17, 18, 19, 23 and 24 should not be reported unless difficulties are encountered in segregating such quantities from total quantities.

8254

9

February 3, 1978

United Pacific Insurance Company
Fidelity & Surety Department
P. O. Box 1216
Tacoma, WA 98401

Gentlemen:

On January 26, 1978, we wrote to you concerning release of final payment on Contract No. 8254 awarded to Kimball Construction, Inc., and Alvin L. Lindley for work on the Five Corners-Lakeview and Hunters Lodge Road-Lakeview Section of the Klamath Falls-Lakeview and Fremont Highways in Lake County.

Final payment on this contract is $808.82 and the total contract amount is $737,017.37 including $15,391 for work performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

dda

cc Kimball Construction, Inc.
and Alvin L. Lindley
P. O. Box 94
Medford, OR 97501

bc C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
Dale Allen - Region 4

8255

STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 0-11-5		State Oregon
PROJECT REPORT NUMBER		County Lake
MODIFICATION NUMBER 3		Project Number RF-32(6) Safety

MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT

10-21-76

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 307,466	$ 364,713
Federal funds	$ 240,406	$ 312,922
Other revisions		

This modification is made for the following reasons:
To include increase in bid item quantities and approved State Force Order No. 3 and increase federal aid pro-rata to 85.8% (Clause 'B') which results in a decrease in previous 100% funding under PL 94-30 to a net of $43,661.00.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 21st day of October, 19 76.

Oregon State Highway Division
(Official name of Highway Agency)

By E S Hunter

Deputy State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

58717

Glen files

Oregon State Highway Division
Salem, Oregon, October 18, 1976

Federal-Aid Project
No. RF-32(6) Safety

Hunters Lodge Road-Lakeview Section
Fremont Highway in Lake County

Revised Project Agreement Estimate.

Type Code 6201
Roadway Paving (M.P. 140.65 to M.P. 142.63)(M.P. 143.03 to M.P. 144.07)

Subtotal on previous estimate of May 4, 1976			$249,623.00
Estimate of July 9, 1975			
Flagmen	212 hour	14.00	2,968.00
Class "C" Asphalt Concrete Mixture in Leveling and Base Course	4,700 ton	8.20	38,540.00
Asphalt Cement in Mixture	640 ton	80.00	51,200.00
Revised Estimate			$ 92,708.00
Flagmen	964 hour	14.00	13,496.00
Class "C" Asphalt Concrete Mixture in Leveling and Base Course	6,647 ton	8.20	54,505.40
Asphalt Cement in Mixture	932 ton	80.00	74,560.00
SFO 3 Permanent Signing	All Required (50%)		550.00
			$143,111.40
	Increase		$ 50,403.40
	Subtotal		$300,026.40
	Engineering		40,502.60
	Total		$340,529.00

Type Code 6201
Roadway Safety (M.P. 140.65 to M.P. 142.63)(M.P. 143.03 to M.P. 144.07)

Total same as previous estimate of May 4, 1976		$ 24,184.00
Length of Project - - - - - - - - - - - -	3.02 Miles	
Cost of Roadway (Paving) per mile - - -	$112,757.94	
Cost of Roadway (Safety) per mile - - -	8,007.94	

SUMMARY OF FUNDS

Description	Total Cost	*Federal Funds	State Funds
Roadway Paving	$340,529.00	$292,173.00	$ 48,356.00
Roadway Safety	24,184.00	20,749.00	3,435.00
Total	$364,713.00	$312,922.00	$ 51,791.00

Group 1 39%

Contract No. 8254

Prefix No. 19-1050

*Increase federal aid Pro-Rata to 85.8%.

8252

FILE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 5-146		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Lake
MODIFICATION NUMBER 2	5 F 76	Project Number RF-32(6) Safety

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 307,466	$ 307,466
Federal funds	$ 240,406	$ 307,466
Other revisions		

This modification is made for the following reasons:
The Project Agreement executed July 17, 1975 is modified to increase Federal-aid participation to 100 percent in accordance with PL 94-30. Such additional Federal Funds requested total $ 67,060."
All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 13th day of May, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By R. J. Schmeltzer

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By W. W. Green
(Division Administrator)

For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 695-313

1254

COPY

TO BE COMPLETED BY FHWA
MONTHLY TRANSACTION NUMBER: 5-71
PROJECT REPORT NUMBER:
MODIFICATION NUMBER: 1

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT

5 . 3 76

Form Approved; O M B No. 04-R2089

State: Oregon

County: Lake

Project Number: RF-32(6) Safety

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on July 17 , 19 75 , is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 307,170	$ 307,466
Federal funds	$ 240,175	$ 240,406
Other revisions		

This modification is made for the following reasons:

To include authorized utility work

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 13th day of May , 1976 .

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By _____

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
for: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 895-313

OREGON STATE HIGHWAY DIVISION
Salem, Oregon May 4, 1976

Federal Aid Project
No. RF-32(6) Safety

Hunters Lodge Road-Lakeview Section

Fremont Highway In Lake County

Revised Project Agreement Estimate.

Type Code 6201
Roadway Paving (MP 140.65 to MP 142.63)(MP 143.03 to MP 144.07)

Subtotal on previous estimate of July 9, 1975		$ 249,327.00
Additional Approved Item Work by City of Lakeview (Water)	Lump Sum	296.00
	Subtotal	$ 249,623.00
	Engineering	33,659.00
	TOTAL	$ 283,282.00

Type Code 6201
Roadway Safety(MP 140.65 to MP 142.63)(MP143.03 to MP 144.07)

Total same as previous estimate of July 9, 1975 $ 24,184.00

Length of Project . . . . . 3.02 miles

Cost of Roadway (Paving) per mile $93,801.98
Cost of Roadway (Safety) per mile . . . . . $ 8,007.94

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway Paving	$283,282.00	$221,497.00	$61,785.00
Roadway Safety	24,184.00	18,909.00	5,275.00
TOTAL	$307,466.00	$240,406.00	$67,060.00

Group 1 - 39%
Contract No. - 8254
Prefix - 19-1050

Form Approved; O.M.B. No. 04-R2089

TO BE COMPLETED BY FHWA	U. S. DEPARTMENT OF TRANSPORTATION	STATE
MONTHLY TRANSACTION NO.	FEDERAL HIGHWAY ADMINISTRATION	OREGON
7-35	7-17-75	COUNTY: Lake
	FEDERAL-AID PROJECT AGREEMENT	PROJECT NO.: RF-32(6) Safety

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

SR 31, Lakeview SCL N. 3.3 mi.

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	6-4-75	3.02
OTHER *(Specify)*		

FUNDS: Pro Rata 78.19%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$ 307,170	$ 240,175

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E. L. Hunter
Asst. State Highway Engineer
(Title)

By _____
(Title)

By _____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By G. L. Green
(Division Engineer)

Date executed by Division Engineer 7-17-75

Form PR-2 (Rev. 9-74) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 301(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 9, 1975

Federal-aid Project
No. RF-32(6) Safety

HUNTERS LODGE RD.-LAKEVIEW SECTION
FREMONT HIGHWAY
LAKE COUNTY

Project Agreement Estimate.

Type Code 6201
Roadway Paving (M.P. 140.65 to M.P. 142.63)(M.P. 143.03 to M.P. 144.07)

Mobilization	All Required (40%)		$ 21,904.00
Temporary Protection and Direction of Traffic	All Required (65%)		3,250.00
Temporary Signs	202 sq.ft.	4.00	808.00
Flagmen	212 hour	14.00	2,968.00
Removal of Structures and Obstructions	All Required (80%)		800.00
Embankment in Place	10,500 cu.yd.	2.50	26,250.00
Trench Excavation	78 cu.yd.	9.00	702.00
Finishing Roadbed and Slopes	1.98 mile	200.00	396.00
Watering	300 M-gal.	7.00	2,100.00
1" - 0 Aggregate Base	13,800 ton	3.60	49,680.00
Class "C" Asphalt Concrete Mixture in Leveling and Base Course	4,700 ton	8.20	38,540.00
Class "C" Modified Asphalt Concrete Mixture	5,300 ton	8.20	43,460.00
Asphalt Cement in Mixture	640 ton	80.00	51,200.00
Portland Cement Additive in Class "C" Modified Mixture	53 ton	73.00	3,869.00
Asphalt in Tack Coat	18 ton	100.00	1,800.00
			$247,727.00

Anticipated Items		
Permanent Pavement Striping (S.F.)	All Required (40%)	$ 800.00
Temporary Erosion Control (S.F.)	All Required (40%)	800.00
		$ 1,600.00
	Subtotal	$249,327.00
	Engineering	33,659.00
	Total	$282,986.00

Type Code 6201
Roadway Safety (M.P. 140.65 to M.P. 142.63)(M.P. 143.03 to M.P. 144.07)

Concrete in Box Culvert Extension	26 cu.yd.	250.00	$ 6,500.00
Reinforcement in Box Culvert	2,820 lb.	0.50	1,410.00
12-inch Culvert Pipe	46 lin.ft.	7.00	322.00
18-inch Culvert Pipe	80 lin.ft.	8.00	640.00
24-inch Culvert Pipe	38 lin.ft.	10.00	380.00
30-inch Culvert Pipe	12 lin.ft.	12.00	144.00
Guard Rail, Type 2A	400 lin.ft.	9.00	3,600.00
Guard Rail Anchors, Type 1	4 only	185.00	740.00
Rail End Pieces, Type C	4 only	118.00	472.00
Extra for Asphalt Approaches	49 only	80.00	3,920.00
Guide Posts	60 only	13.00	780.00
Adjusting Manholes	8 only	300.00	2,400.00
	Subtotal		$ 21,308.00
	Engineering		2,876.00
	Total		$ 24,184.00

Work Retained in Program Status

Permanent Signing (S.F.)	All Required	$ 250.00
	Engineering	33.00
		$ 283.00

Length of Project - - - - - - - - - - - - - 3.02 Miles
Cost of Roadway (Paving) Per Mile - - - $93,703.97
Cost of Roadway (Safety) Per Mile - - - $ 8,007.94

SUMMARY OF FUNDS

Description	Total Cost	Fed. Funds	State Funds
Roadway Paving	$282,986.00	$221,266.00	$61,720.00
Roadway Safety	24,184.00	18,909.00	5,275.00
Subtotal	$307,170.00	$240,175.00	$66,995.00
Retained in Program	283.00	221.00	62.00
Total	$307,453.00	$240,396.00	$67,057.00

Group 1 - 39%

Contract No. 8254

Prefix No. 19-1050

HUNTERS LODGE RD.-LAKEVIEW SECTION
Nonparticipating - State Work

State Responsibility for Damages	All Required (40%)	$ 400.00

8254

Post Office Box 94 • Phone (503) 774-6071 • Medford, Oregon 97501

July 23, 1976

Mr. Wayne Cobine
Resident Engineer
616 North Fourth
Lakeview, Oregon 97630

Re: Completion of Contract #8254

Dear Sir:

Item 12, "Class C Modified Asphalt Concrete Mixture", has developed many slick, fat spots, i.e. excessive asphalt in areas throughout the project. We were not able to determine the cause of this problem with the exception of a mistake made by your laboratory in Salem that required an excessive amount of asphalt in the mixture. Our basis for this judgement is that during the last two days of paving, we had cut the asphalt content, as advised by Gene Flickinger, our superintendent and Gene Barnes, inspector, below the requirements set by the state laboratory. This paving portion of the job did not bleed. We beleive, therefore, it was not a problem created by our facilities, but that of simply too much asphalt designed for the mixture.

We have attempted to remove these objectionable spots through sand blasting and the utilizing of fine rock. Apparently, this is not satisfactory to the state, but we feel that our obligation is certainly completed. In fact, we feel that we have extended ourselves far beyond that required by the contract.

Thank you for your consideration.

Yours very truly,

Gale G. Kimball
KIMBALL CONSTRUCTION, INC.

GGK/dh

RECEIVED
STATE HWY ENGR
JUL 29 '76
REFER TO
Keasey
FOR
Info | Inves | R/D | D/R | Sign | Act | File
X

8254

FORM 81-784-8001

OREGON STATE HIGHWAY DIVISION

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE SECTION

SECTION: Five Corners– Lakeview & Hunters Lodge Rd.–Lakeview

WEEK ENDING: August 27, 1976

HIGHWAY: K. Falls–Lakeview & Fremont

SECTION PREFIX: 19–1050

COUNTY: Lake

NAME OF JOB: Same as above

KIND OF WORK: Grading and Paving

CONTRACTOR: Kimball Const. & Alvin L. Lindley

CONTRACT NUMBER: 8254

FEDERAL AID PROJECT NUMBER: RS–19–002(1) & RF–32(6)

DATE OF CONTRACT: July 2, 1975

DATE WORK STARTED: August 20, 1975

ESTIMATED COMPLETION DATE: July 1, 1976

AVERAGE FORCE ON PROJECT FOR THE WEEK:
MEN 0 SUPERVISION 0

SPECIFIED WORK DAYS

WORK DAYS USED

SPECIFIED CALENDAR DAYS 300

CALENDAR DAYS USED 241

SPECIFIED COMPLETION DATE

PERCENT OF TIME ELAPSED 80

PROJECT AUTHORIZATION: $835,385.40

EXCLUSIVE OF ENGINEERING: $763,385.40

ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $744,522.58

ESTIMATED PERCENT: UNDERRUN 2.47%

ENGINEERING AUTHORIZATION $72,000.00

ENGINEERING COST TO DATE $67,500.00

PERCENT OF AUTHORIZATION 94 %

PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST 100

PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION 100

DATE PROJECT WAS COMPLETED: July 1, 1976
Semi-final will be submitted on September 3, 1976

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		
100	100	100	100	100	100		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT	5.09	5.09			7.15
MILES PARTIALLY COMPLETED	5.09	5.09			7.15
MILES COMPLETED	5.09	5.09			7.15
TOTAL ESTIMATED QUANTITIES (CONTRACT)	18,400	35,400			23,500
TOTAL QUANTITIES CORRECTED TO DATE	14,637	35,447			23,963
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	14,637	35,447			23,963
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.	8303A		Box Culvert				
PERCENT	100		100				

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY				Project was completed July 1, 1976
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				

Kressey
Brunt
Richmond
Haywood
Johnson
Walker

RECEIVED
AUG 30 1976
CONSTRUCTION
SECTION

Gano
Berg

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY	
MONDAY	NO ACTIVITY THIS WEEK
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

All work has been completed, except for correction of the slick spots. The laboratory is checking some cores to determine the problems.

THIS IS THE FINAL REPORT

SIGNED Wayne F. Cobine LOCATION Lakeview

Wayne F. Cobine

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP°F216

DATE: June 18, 1976

TO: Oregon Transportation Commission

FROM: H. S. Coulter
State Highway Engineer

SUBJECT: Request for Increase in Project Authorization
Five Corners-Lakeview & Hunters Lodge Rd.-Lakeview
Contract No. 8254

An overrun of $58,372.34, or 7.5 percent, is expected on this project in Lake County. The project covers some shoulder widening and overlay paving on three units in the vicinity of Lakeview on both the Klamath Falls-Lakeview and Fremont Highways. Kimball Construction and Alvin L. Lindley is the contractor and the project is almost completed. Overrun of contract quantities on two items more than accounts for the overrun. The contract quantity of flagging hours was estimated too low and will cost over $39,000 more than the contract quantity. The project is actually being completed well ahead of the contract time allowed (less than 80 percent of the contract time has elapsed).

The other overrun item is asphalt in the asphalt concrete mix. The contract includes 23,500 tons of asphalt concrete paving and the asphalt item was based on a 6.4 percent content, whereas actual mix designs have required eight percent asphalt. This is a costly item and accounts for $28,800 of the cost increase. Other change orders have been minor and easily absorbed within contingency funding available. The project utilizes federal RS and RF funding and all the overrun cost is participating.

Your approval of a $58,372.34 increase to a new total authorization of $835,385.40 is recommended. This matter will be on the agenda for your June 29 meeting.

JAB:fr ia

bc C. W. Head
R. A. Burco
F. B. Klaboe
E. S. Hunter
R. L. Schroeder
C. M. Williams
C. T. Keasey
L. W. Rulien
V. E. Skoog
George Bell

Form E-376 (Rev. 10-68)

OREGON STATE HIGHWAY DEPARTMENT

APPROVED
H. D. Coulter
STATE HIGHWAY ENGINEER

Expected Overrun of Project Authorization

DATE: 6-30-76

Project Five Corners-Lakeview & Hunters Lodge Rd.-Lakeview Date 6/14/76

Highway K. Falls-Lakeview & Fremont Contract No. 8254

County Lake Kind of Work Grading & Paving Contractor Kimball Const. & Alvin L. Lindley

	Authorized	Estimated
Contract Amount	678,293.00	731,264.40
Anticipated Items	6,300.00	3,300.00
Contingency (4½%)	30,806.69	28,821.00
Engineering	61,613.37	72,000.00
Credits		
PROJECT COST	777,013.06	835,385.40
	NET INCREASE $	58,372.34 = 7.5%

MAJOR OVERRUNS AND UNDERRUNS (Describe Briefly)

(Indicate whether contract (C), anticipated (A), or unanticipated (U). (List all unanticipated items)

		Expected Amount	Net Change
(C)	4-Flagmen	46,200.00	+39,704.00
(C)	9-Watering	14,000.00	+4,900.00
(C)	13-Asphalt Cement in Mixture	148,800.00	+28,800.00
(U)	EWO#3 Removal of Soft Spots in existing Roadway	11,000.00	+11,000.00
(U)	Unanticipated work covered by Change Orders PA #3-8 & EWO 2 & 4	16,156.00	+16,156.00
(U)	Allowance for future contingencies (4 1/2% of $37,000)	1,665.00	+1,665.00

Principal reasons for overruns (Continue on reverse side): Several overruns and underruns minor in nature occurred but thoughs which are considered significant or major are listed above. See reverse side.

INSTRUCTIONS: A report on this form is to be submitted if and when it becomes evident that the project cost will exceed the original project authorization by more than five per cent and again if and when it becomes evident that the project cost will exceed by more than five per cent a subsequently approved increased project authorization. Submit five copies to Salem. After having been noted by the Deputy or Assistant State Highway Engineer, one copy will be sent to the Division Engineer and one copy to the Resident Engineer.

Submitted by Wayne F. Cobine
Wayne F. Cobine Resident Engineer

Confirmed by Robert Landmark
for Division Engineer

Noted by
Construction or Bridge Engineer

Noted by H. D. Coulter
Deputy or State Highway Engineer

SP*23787 774

OREGON STATE HIGHWAY DIVISION

Order for State Force Work

Contract No. 8254

APPLYING TO CONTRACT PROJECTS

Order No. 3

Section Five Corners-Lakeview & Hunters Lodge Rd-Lakeview Date February 25, 19 76

Highway Klamath Falls-Lakeview and Fremont F.A.P. No. RS-19-002(1) & RF-32(6)

County Lake Prefix 19-1050 Account No.

APPROVED EFFECTIVE DATE 5-4-76
Contingent upon modification of proj
ect as shown on attached sheet if
required.
BY G. K. Hoessner
TITLE Dist. Engineer
DATE 5/20/76
FEDERAL HIGHWAY ADMINISTRATION

Description of Work To Be Done:

Permanent signing .

Location by Station Numbers:

Klamath Falls-Lakeview Highway M.P. 92.24 to 96.36
Fremont Highway MP 140.65 to 144.07

FHWA Order Effective Date
APPROVED EFFECTIVE DATE 5-4-76

Estimate of Quantities and Costs:

Labor	$470.00
Equipment	115.00
Materials	515.00
TOTAL:	$ 1,100.00

Explanation:

Permanent signing to be installed on construction project. To replace broken and lost signs.

INSTRUCTIONS

Submit a separate order for each piece or kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After final approval, two copies will be sent to the Regional Engineer and one copy to the Resident Engineer.

Project authorization	$ 777,013.00
Present estimate of project cost, including $ 1,100.00 for work under this order	$ 777,013.00
Expected under-run / over-run (amount)	$ 0
Expected under-run / over-run (per cent)	0

Space to right of this line is for use of Salem Office

Submitted by: Resident Engineer
Regional Traffic/Utility Engineer

Approval Recommended: Regional Engineer

Approval Recommended: For Construction Engineer or Bridge Engineer

Approved: Construction Engineer

8254 1-14-76

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.
RF-32(6) & RS-19-002(1)
STATE PROJECT NO.
Five Corners-Lakeview
Hunters Lodge-Lakeview

FROM:
G. L. Green Division Administrator
FHWA-Oregon Division
Salem, Oregon

PROGRAM NO.

ITEM NO.
RF-50 & RS-44

COUNTY NAME
Lake

PROGRAM STAGE (Check)
☐ 1. ☐ 2.

TO:

Mr. F. B. Klaboe
Administrator and State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
JAN 15 '76
REFER TO
FOR
Info | Appr | Sig | Dir | Sec | Ass | File

DATE PS&E APPROVED

DATE AUTHORIZATION EFFECTIVE
September 22, 1975

FEDERAL ROUTE NUMBER
Primary Route 16 and Secondary Route 410

STATE ROUTE NUMBER
Primary Routes 19 and 20

GENERAL LOCATION:
Lakeview

GENERAL DESCRIPTION OF WORK:
You are now authorized to proceed with actual adjustments for the City of Lakeview's water facilities effective 9-22-75. Reimbursement on an agreed lump sum basis of $559.00 - federal funds $436.00 is approved.

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

☐ PRELIMINARY ENGINEERING TO DETERMINE LOCATION ONLY

☐ PRELIMINARY ENGINEERING FOR SURVEY AND PLAN PREPARATION

☒ OTHER (Specify) Utility adjustment.

☐ ACQUISITION OF RIGHT-OF-WAY

☐ CONSTRUCTION - ADVERTISE FOR RECEIPT OF BIDS

☐ CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS
My program memorandum dated 9-22-75 approved a minor program change adding work for all utility adjustments to be included in the construction phase of the subject project effective on that date. Approval and participation for the digible portion of the work authorized above is subject to the provisions of Federal-aid Highway Program Manual. I approve the agreement with the City of Lakeview consisting of your Regional Utilities Engineer's verbal notice, the City of Lakeview's 7-30-75 letter and the plans and estimate furnished by Mr. Cartwright's 9-17-75 letter.

Mr. John E. Holcomb's Affidavit of the City of Lakeview's property rights is acknowledged.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
1-14-76	C R [illegible]	Division Administrator

FORM PR-1240 (REV. 8-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

1 of 4 **LETTER OF APPROVAL AND/OR AUTHORIZATION** 9-22-75

FEDERAL AID PROJECT NO.	RF-32(6)
STATE PROJECT NO.	Hunters Lodge-Lakeview
FROM: G. L. Green, Division Administrator, Salem, Oregon	PROGRAM NO.
ITEM NO.	RF-50
COUNTY NAME	Lake
PROGRAM STAGE (Check)	☐ 1. ☐ 2.

TO:

Mr. F. B. Klaboe
Administrator and State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENGR
SEP 26 '75
REFER TO
Rulien
FOR

UTIL	LIVES	R/D	DIV	STR	AD
					✓

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
	September 22, 1975	Primary Route 16	Primary Route 19

GENERAL LOCATION:
SR 31 - Lakeview SCL North 3.3 miles

GENERAL DESCRIPTION OF WORK:

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

PRELIMINARY ENGINEERING TO DETERMINE
☐ LOCATION ONLY
PRELIMINARY ENGINEERING FOR SURVEY AND PLAN
☐ PREPARATION

☐ ACQUISITION OF RIGHT-OF-WAY
CONSTRUCTION - ADVERTISE FOR RECEIPT
☐ OF BIDS

☒ OTHER (Specify)
Minor program change.

☐ CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

My program approval memorandum of May 13, 1975 approved this project for inclusion in the Federal-aid program.

As requested in Mr. Rulien's September 17, 1975 letter I approve the minor program change adding to the character of the proposed work "Adjustment of Utilities including preparatory work" at a total estimated cost of $296.00 - federal funds $231.00.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
9-22-75	for R Bergkoudt	Division Administrator

FORM PR-1240 (REV. 6-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

LETTER OF APPROV[illegible] AND/OR AUTHORIZATION

9-22-75

FEDERAL AID PROJECT NO.
RS-19-002(1)

[illegible]TE PROJECT NO.
Five Corners--Lakeview

FROM:
G. L. Green, Division Administrator
Salem, Oregon

PROGRAM NO.

ITEM NO.
RS-44

COUNTY NAME
Lake

PROGRAM STAGE (Check)
☐ 1. ☐ 2.

TO:

Mr. F. B. Klaboe
Administrator and State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED
STATE HWY ENG
SEP 26 '75
REFER TO
Rulien
FOR

Info	Inves	R/D	D/R	Sign	

DATE PS&E APPROVED

DATE AUTHORIZATION EFFECTIVE
September 22, 1975

FEDERAL ROUTE NUMBER
Secondary Route 410

STATE ROUTE NUMBER
Primary Route 20

GENERAL LOCATION:
SR 140 Junction SR 31 (Lakeview) West 4.1 miles

GENERAL DESCRIPTION OF WORK:

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

PRELIMINARY ENGINEERING TO DETERMINE
☐ LOCATION ONLY
PRELIMINARY ENGINEERING FOR SURVEY AND PLAN
☐ PREPARATION

☒ OTHER (Specify)
Minor Program Change

☐ ACQUISITION OF RIGHT-OF-WAY
CONSTRUCTION - ADVERTISE FOR RECEIPT
☐ OF BIDS

☐ CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

My program approval memorandum of May 13, 1975 approved this project for inclusion in the Federal-aid program.

As requested in Mr. Rulien's September 17, 1975 letter I approve the minor program change adding to the character of the proposed work - "Adjustment of Utilities including preparatory work" at a total estimated cost of $263.00 - federal funds $205.00.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
9-22-75	C R Lienhardt for	Division Administrator

FORM PR-1248 (REV. 8-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

8254

~~PRO 6-2~~

September 17, 1975

TO: G. L. Green, Division Admin.
Federal Highway Administration

FROM: L. W. Rullen
Project Management Engineer

SUBJECT: Minor Program Change
Project No. RF-32(6)
Hunters Lodge-Lakeview Section

We hereby request your approval of a minor program change on the subject project to include in the character of proposed work "Adjustment of Utilities including preparatory work". Subsequent to submission of the program on the project it was determined that adjustments of City of Lakeview water facilities were required on the project. The estimated total cost for the utility adjustments is $296.00 with federal funds of $231.00.

CL:dc

8054

R

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

DATE June 18, 1975

TO Oregon ~~State Highway~~ Transportation Commission

FROM F. B. Klaboe
State Highway Engineer

SUBJECT Footpaths and Bicycle Trails
June 5, 12, 19 and 26 Bid Lettings

Bids were taken June 5, 12, 19 and 26 on the following projects. This is an informational report to document the Highway Division's action taken with regard to establishing footpaths and bicycle trails on those projects as set forth in Oregon Laws 1971, Chapter 366.

June 5 Bid Letting:

1. Pacific Highway East U'Xing-N. Columbia Boulevard
Pacific Highway, Multnomah County

Grade, Pave, Sign and Illumination Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout the section.

2. Rowena-The Dalles
Columbia River Highway, Wasco County

Grade, Pave, Sign and Illumination Project

Same as No. 1.

3. Hilgard-LaGrande
Old Oregon Trail Highway, Union County

Grade, Pave and Sign Project

Same as No. 1.

4. McVay Highway at Pacific Highway O'Xing
McVay Highway, Lane County

Signal Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

5. Oregon Coast Highway at W. Devils Lake Road
Oregon Coast Highway, Lincoln County

Grade and Pave Project

Bicycle trails will not be included as the project consists of minor grading and surfacing to obtain a left-turn refuge. Four-foot shoulders will be provided throughout the project.

6. N. W. Elks Drive-N. W. Conifer Boulevard (Corvallis)
Pacific Highway West, Benton County

Grade and Pave Project

Same as No. 1, except that 6-foot shoulders will be provided.

7. Poormans Creek Bridge
Jacksonville Highway, Jackson County

Grade, Pave and Structure Project

Same as No. 1, except that 4-foot shoulders will be provided.

June 12 Bid Letting:

1. N. Marquam Interchange-N. Tigard Interchange
Pacific Highway, Multnomah County

Grade, Pave, Sign and Illumination Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout the project.

2. S. W. Clay Street-S. W. Sheridan Street
Pacific Highway West, Multnomah County

Roadside Improvement Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

3. Link River-Bisbee Street
Klamath Falls-Lakeview Highway, Klamath County

Paving Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Five-foot sidewalks exist.

4. Smith Point (Astoria)
Oregon Coast Highway, Clatsop County

Roadside Improvement Project

Same as No. 2.

5. Interstate Avenue Grade Separation
Pacific Highway West, Multnomah County

Guardrail Project

Same as No. 2.

June 19 Bid Letting:

1. Bellevue Street S. E.-Mission Street S. E. (Salem)
FAUS 1555, Marion County

Grade, Pave, Structure and Illumination Project

An 8-foot Class II bikeway will be provided.

2. Chehalem Creek (Newberg)
Pacific Highway West, Yamhill County

Grade, Pave and Structure Project

Five-foot sidewalks will be provided.

3. Sharps Corner-Diagonal Road
Columbia River Highway, Umatilla County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Four-foot shoulders will be provided.

4. Jordan Valley-Jordan Creek
I.O.N. Highway, Malheur County

Grade and Pave Project

Same as No. 3.

5. Hogback Summit-Lake Abert
Lakeview-Burns Highway, Lake County

Grade and Pave Project

Same as No. 3.

6. S. Fork Big Butte Creek (Butte Falls) Bridge
FAS 15-101, Jackson County

Structure Project

Same as No. 3.

7. Middle Fork Malheur River (Acton Bridge)
FAS 458, Harney County

Grade, Base and Structure Project

Same as No. 3, except that 2-foot shoulders will be provided.

8. McMinnville-Willamina-Sheridan Area Safety Projects
Pacific Highway West and Salmon River Highway
Polk and Yamhill Counties

Attenuators, Guardrail and Sign Projects

Footpaths or bicycle trails are not incorporated

in this project as no new highway construction, reconstruction or relocation is involved.

9. Simpson Creek
Corvallis-Newport Highway, Lincoln County

Grade, Pave and Culvert Project

Same as No. 3.

10. Daisy Street-SPRR (Springfield)
Springfield-Creswell Highway, Lane County

Grade and Pave Project

An 8-foot, Class I or Class II bikeway will be provided.

11. Aumsville (N. Fifth Street)
City Street, Marion County

Grade and Pave Project

Four-foot sidewalks will be provided.

June 26 Bid Letting:

1. Winchester Interchange-Garden Valley Boulevard
Pacific Highway, Douglas County

Grade, Pave and Sign Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout this section.

2. Motorist Service Signing Project, S. Unit
Pacific Highway, 3 Counties

Signing Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

3. Motorist Service Signing Project, N. Unit
Pacific Highway, 6 Counties

Signing Project

Same as No. 2.

4. Motorist Service Signing Project
Columbia River Highway, 9 Counties

Signing Project

Same as No. 2.

5. N. E. Union Avenue-N. E. 92nd Avenue
Columbia River Highway, Multnomah County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout this section.

6. S. W. 72nd Avenue Interchange-S. W. Boones Ferry Road
Beaverton-Tigard, Pacific and FAS 943 Highways
Washington and Clackamas Counties

Grade and Pave Project

An 8-foot Class I bikeway will be provided.

7. Five Corners-Lakeview and Hunters Lodge Road-Lakeview
Klamath Falls-Lakeview and Fremont Highways, Lake County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders or 5-foot sidewalks in curbed areas are available.

8. Lyons (14th and 15th Streets)
City Street, Linn County

Paving Project

Same as No. 1, except that two 12-foot paved travel lanes and 6-foot gravel shoulders will be provided.

9. Veneta (Second Street)
City Street, Lane County

Grade and Pave Project

Same as No. 1, except that 8-foot shoulders will be provided.

10. Detroit (D and Patton Streets)
City Streets, Marion County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders will be provided.

11. Rooster Rock State Park
Multnomah County

Beach Restoration and Erosion Control Project

Same as No. 2.

bc C. W. Head
G. M. Baldwin
A. E. Johnson
E. S. Hunter
R. L. Schroeder
D. G. Talbot
L. E. George
Victor D. Wolfe
Gary Sund
Jack Graham

WHW:mc ja

5254

cc: E. S. Hunter
L. W. Rulien
W. J. Hart
Robert E. Royer
George Wills
C. G. Swenson
F. E. Terpin
D. L. Trout
C. M. Williams
(2)
cc's sent 6-18-75 we

WILDLIFE COMMISSION

OFFICE OF THE DIRECTOR

P.O. BOX 3503 • 1634 S.W. ALDER ST. • PORTLAND, OREGON • 97208 • PH. 229-5551

ROBERT W. STRAUB
GOVERNOR

COMMISSIONERS
ALLAN L. KELLY, Chairman
FRANK A. MOORE, Member
MRS. ALLEN BATEMAN, Member
DAN CALLAGHAN, Member
JAMES W. WHITTAKER, Member

JOHN W. McKEAN
Wildlife Director

June 13, 1975

Mr. Hal Versteeg, Chief
Design Section
Oregon State Highway Division
State Highway Building
Salem, Oregon 97310

NOTED
E. S. HUNTER

Dear Mr. Versteeg:

RE: Five Corners - Lakeview and Hunters Lodge Road
Lakeview Section
Lake County

The Wildlife Commission has completed review of your revision to plans for the above mentioned project which call for widening of the Thomas Creek Bridge. We anticipate no impact to fish or wildlife habitat if this operation is conducted as described and appropriate measures are taken to minimize turbidities during and after construction.

If we can be of any further assistance, please call.

Sincerely,

Jim Lauman

Jim Lauman
Aquatic Biologist
Environmental Management Section

cc Fish Commission of Oregon
Hank Mastin
SE Region

JL:lo

RECEIVED
JUN 18 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

RECEIVED
JUN 18 1975
ROAD
DESIGN
SECTION

Budget Bureau No. 41-R2068; Approval

U.S. DEPART
BURE

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO W.O.

FORM PR-9
(REV. 4-61)

REQUEST FOR APPROVAL OF INDIVIDUAL PROJECT PROGRAM CHANGE
(PPM 21-1 AND 22-1)

CARD 2 — REPORT NUMBER (18)–(20) — PROJECT LOCATION (45 typewriter spaces) (21–65): SR 140, Jct. SR 31 (Lakeview), W. 4.1 mi. — ADT: 2,200* — FUTURE ADT (66–70): 3,500 — YEAR (71–72): 95 — REGION (74–75): 10 — STATE NAME: Oregon — STATE CODE (1–2): 41

CARD 3 — CHARACTER OF PROPOSED WORK (35 spaces) (28–62): Gr., Dr., H.T. Pave, One Br. — NATL. FOREST (63–65) — FOR MISCELLANEOUS FUNDS ONLY: FH ROUTE NO (66–68); SUPV AGCY (69); DA CLASSIF. (70); DA AREA (71); EMERG. YR. (72–73); PL AUTH YR (74–75) — PROJECT NUMBER: PREFIX LETTER(S) (14–23): RS- — NUMBER-AGR. NO. (7): 19-002 (1)

CARD 4 — CLASS OF FEDERAL FUNDS [1]: Rural Secondary — COUNTY NAME: Lake — NAME OF URBAN AREA (17–31) — F.A. SYSTEM: Secondary — RTE NO.: S — FEDERAL AID: 410 — STATE (32): 20

CARD 5	LINE NO.	CHNG CODE	PROJECT COUNT	WORK CL	WORK TYPE (43–46)	STEP (53)	STATUS	ITEM NUMBER (54–58)	PROJECT NUMBER (59–66)	TERMINI	MILES (64–65)	TOTAL COST (59–66)	FEDERAL FUNDS (67–76)	STATE FUNDS	CHANGE IN PROJECT
1										SR 140, Jct. SR 31 (Lakeview), W. 4.1 mi. "Five Corners-Lakeview Section"	4.13	494,000	386,200	107,800	Gr., dr., overlay co travel lan provement visions of and appurt
1	5				PE ROW CONST 6201		ITEM AS NOW PROGRAMED Stage 2	44	RS-19-002(1)	PROJECT TOTAL	4.13	494,000	386,200	107,800	
2	5				PE ROW CONST 6201 X020		REQUESTED REVISION Stage 2	44	RS-19-002(1)	SR 140, Jct. SR 31 (Lakeview), W. 4.1 mi. "Five Corners - Lakeview Section"	4.13	530,000 (16)–(23)	414,400 (24)–(33)	115,600	Gr., dr., overlay co travel lan provement bridge (L. visions of appurtena
2										PROJECT TOTAL	4.13	530,000	414,400	115,600	

CARD 1 — A form PR-1 or PR-9 has been submitted within the last 7 days. Yes ☐ — PROJECT WITHDRAWN YES ☐

CARD 1 — COLUMN 14 ⟶ CODE 11 — CODE 2

REASON FOR CHANGE: To include in the "character of proposed work" widening one bridge "Project Cost" to reflect the additional work and latest cost estim

NOTE: Projects splitting into two or more projects. Prepare a form PR-1 for all new projects resulting from such action.

DATE OF INITIAL APPROVAL: May 13, 1975	PROGRAM REVISION REQUESTED	RECOMMENDED	APPROVED
OTHER:	DATE: June 12, 1975	DATE	DATE
	SIGNATURE	SIGNATURE	SIGNATURE
	PROJECT MANAGEMENT ENGINEER	TITLE	TITLE

[1] If revision includes transfer from one class of project to another, or covers joint financing, show both classes of funds involved.

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE AFTER 7-1-61

8954

Budget Bureau No. 41-R2068; Approval Expires February 28, 1966

NO.

FORM PR-1 (REV. 6-61)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

REQUEST FOR APPROVAL OF INDIVIDUAL PROJECT PROGRAM CHANGE (PPM 21-1 AND 22-1)

PROJECT LOCATION (65 typewriter spaces)			FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPR. CODE	ITEM NO
SR 140, Jct. SR 31 (Lakeview), W. 4.1 mi.	ADT	2,200*	3,500	95	10	Oregon	41	075	44

PROPOSED WORK (35 spaces)	NATL. FOREST	FOR MISCELLANEOUS FUNDS ONLY						PROJECT NUMBER		I PROJECTS ONLY	
		FH ROUTE NO	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL AUTH YR	PREFIX LETTER(S)	NUMBER-AGR. NO.	POST MI.	DESIG.
H.T. Pave, One Br.								RS-	19-002 (1)		

FUNDS	COUNTY NAME	CODE
Rural Secondary	Lake	037

REA	F.A. SYSTEM	RTE NO.	FEDERAL AID	STATE	U.S.
	Secondary	S	410	20	--

WORK TYPE	STEP	STATUS	ITEM NUMBER	PROJECT NUMBER	TERMINI	MILES	PROJECT COST: TOTAL COST	FEDERAL FUNDS	STATE FUNDS	CHARACTER OF PROPOSED WORK
PE		ITEM AS NOW PROGRAMED	44	RS-19-002(1)	SR 140, Jct. SR 31 (Lakeview), W. 4.1 mi. "Five Corners-Lakeview Section"	4.13	494,000	386,200	107,800	Gr., dr., H.T. pavement overlay consisting of travel lane, shldr improvement & safety revisions of roadway slopes and appurtenances.
ROW										
CONST 6201		Stage 2								
					PROJECT TOTAL	4.13	494,000	386,200	107,800	
PE					SR 140, Jct. SR 31 (Lakeview), W. 4.1 mi. "Five Corners - Lakeview Section"	4.13	530,000	414,400	115,600	Gr., dr., H.T. pavement overlay consisting of travel lane, shldr. improvement and widen one bridge (L.57') & safety revisions of roadway slopes & appurtenances.
ROW										
CONST 6201 X020		REQUESTED REVISION Stage 2	44	RS-19-002(1)						
					PROJECT TOTAL	4.13	530,000	414,400	115,600	

-9 has been submitted Yes ☐ PROJECT WITHDRAWN YES ☐
ays.
CODE 11 CODE 2

g into two or more projects. Prepare a form PR-1 for all aking from such action.

REASON FOR CHANGE: To include in the "character of proposed work" widening one bridge and to increase "Project Cost" to reflect the additional work and latest cost estimate.

(over)

VAL:	PROGRAM REVISION REQUESTED	RECOMMENDED	APPROVED
5	DATE June 12, 1975	DATE	DATE
	SIGNATURE	SIGNATURE	SIGNATURE
	PROJECT MANAGEMENT ENGINEER	TITLE	TITLE

fer from one class of project to another, or covers joint financing, show both classes of funds involved.

HIS FORM ARE OBSOLETE AFTER 7-1-61

USCOMM-DC 48038-P61

FIVE CORNERS-LAKEVIEW SECTION

PROJECT NO. RS-19-002(1)

Additional Data on Existing Facility:

Bridges . . . . MP 93.81; Goose Lake Swale; Br. No. 2346; Pt. Comp. Spans; L.38'; H.C. 34'; H-15 loading.
MP 94.15; Thomas Creek; Br. No. 8303; RC Panel Spans on Pt.; L.57'; H.C. 26'; H-20 loading.
MP 94.44; Thomas Creek; Br. No. 2345; Pt. Comp. Spans; L.38'; H.C. 34'; H-15 loading.
MP 94.70; Warner Canyon Cr; Br. No. 2344; Pt. Comp Spans; L.38'; H.C. 34'; H-15 loading.

Additional Project Data:

MP 94.15. . . Widen bridge (Br. No. 8303A) with precast conc. deck panels to provide a structure 57 feet in length having a horizontal clearance of 34 feet.

Additional Data for PR-37:

Structure Type Code X020 . . . . . $35,000

ROBERT W. STRAUB
XXXXXXXXXX

May 21, 1975

Mr. John McKean
State Wildlife Director
Oregon State Wildlife Commission
P. O. Box 3503
Portland, Oregon 97208

Attention: Jim Lauman

Dear Jim:

Re: Bridge Widening
Five Corners-Lakeview &
Hunters Lodge Rd.-Lakeview Sec.
Klamath Falls-Lakeview & Fremont
Highways
Lake County

You were recently sent preliminary plans on this project for review and recommendations. Those plans contained a box culvert extension at Hammersly Creek. Since then it has become necessary that we widen an existing structure over Thomas Creek. This work will be part of the same contract and will be handled by a price agreement.

The existing Thomas Creek structure is set on piling. The proposed widening will be an equal amount on each side and will also be set on piling. The only excavation involved will be at the ends of the structure where it will be necessary to excavate enough to put a cap on the piling. Since the quantities will be much less than 50 cubic yards no application will be made to the Division of State Lands. Your recommendations should be made in response to this letter.

Your special attention and reply would be appreciated.

Very truly yours,

J. H. Versteeg
Road Design Engineer

DLT:jh

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
2	Typical Sections & Summary
2A	Details & Earthwork
2B	Pipe Data

Drg. No's

2050 - Feathering

2091 B, 2112 } Culvert Pipe

2126, 2126A, 2126B, 23257 } Guard Rail

2106 - Guide Posts

9795, 17292, 24635 } Box Culvert Extension

S-1, S-12 - Temporary Protection & Direction of Traffic

STATE OF ORE

STATE HIGHWAY

PLANS FOR PROPOSED

GRADING & PAVI

FIVE CORNERS ~ LA

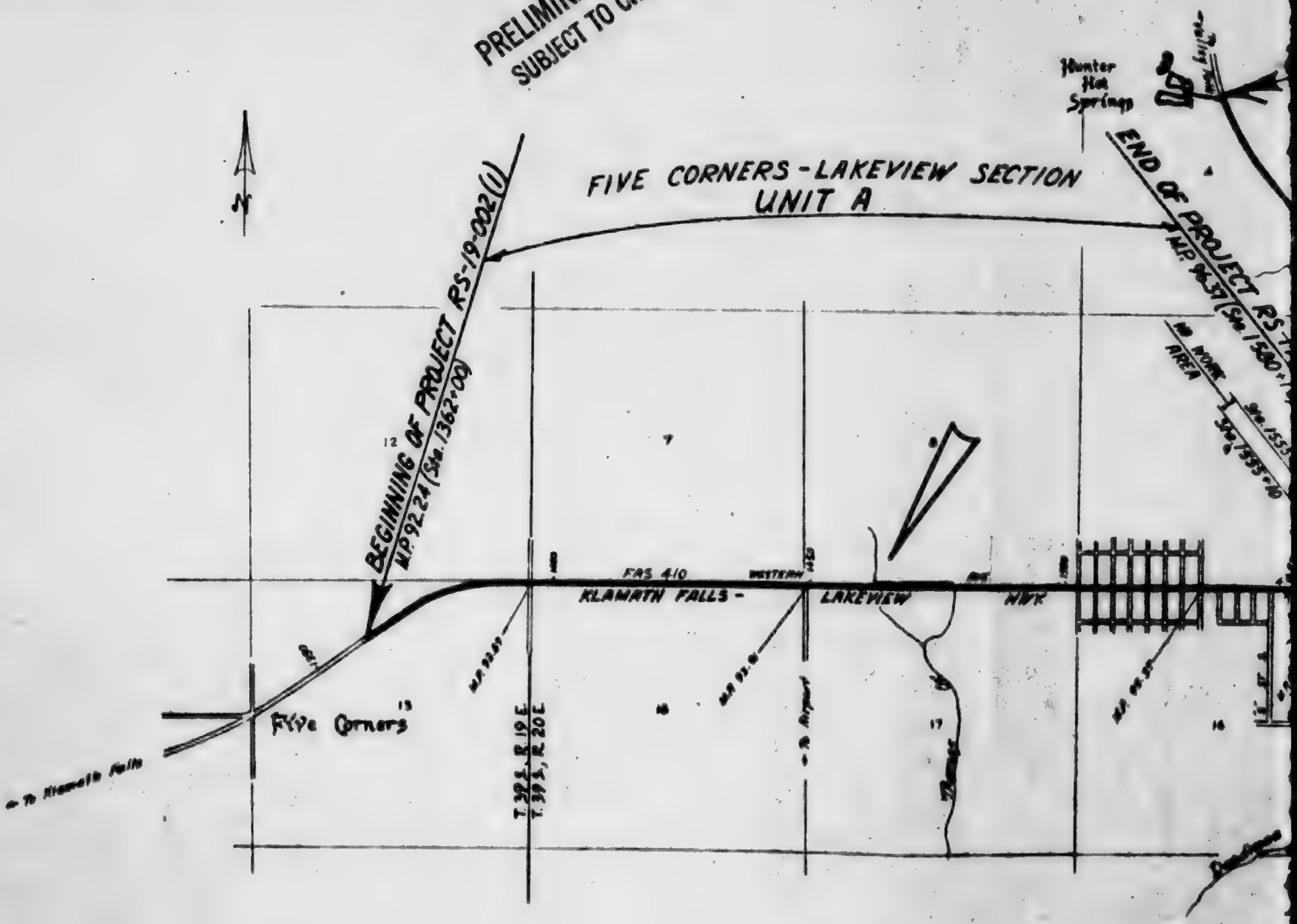
HUNTERS LODGE RD. ~ LA

KLAMATH FALLS - LAKEVIEW & FR

LAKE COUNTY

JUNE, 1975

PRELIMINARY COPY
SUBJECT TO CHANGE



Sketch Map

Scale 0 ½ Mile

12V-113

Overall Length of Project 7.15 Miles

FIVE CORNERS - LAKEVIEW AND HUNTERS LODGE RD - LAKEVIEW SECTIONS KLAMATH FALLS-LAKEVIEW & FREMONT HIGHWAYS LAKE COUNTY				SHEET NO. 1
FED. ROAD DIV. NO.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON	RF-32(6) RS-19-002(1)		32

E OF OREGON

GHWAY DIVISION

OR PROPOSED PROJECT
ADING & PAVING

RS ~ LAKEVIEW AND
RD.~ LAKEVIEW SECTIONS

KEVIEW & FREMONT HIGHWAYS
LAKE COUNTY
JUNE, 1975

OREGON TRANSPORTATION COMMISSION

Glenn L. Jackson	CHAIRMAN
Gordon Coleman	COMMISSIONER
Michael P. Hallern	COMMISSIONER
Robert L. Mitchell	COMMISSIONER
Tom Walsh	COMMISSIONER
George M. Baldwin	DIRECTOR OF TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER — FRED B. KLABOE — MAY 9, 1975

REGISTERED PROFESSIONAL ENGINEER — A. E. JOHNSON — MAY 9, 1975

Fred B. Klaboe — ADMINISTRATOR AND HIGHWAY ENGINEER

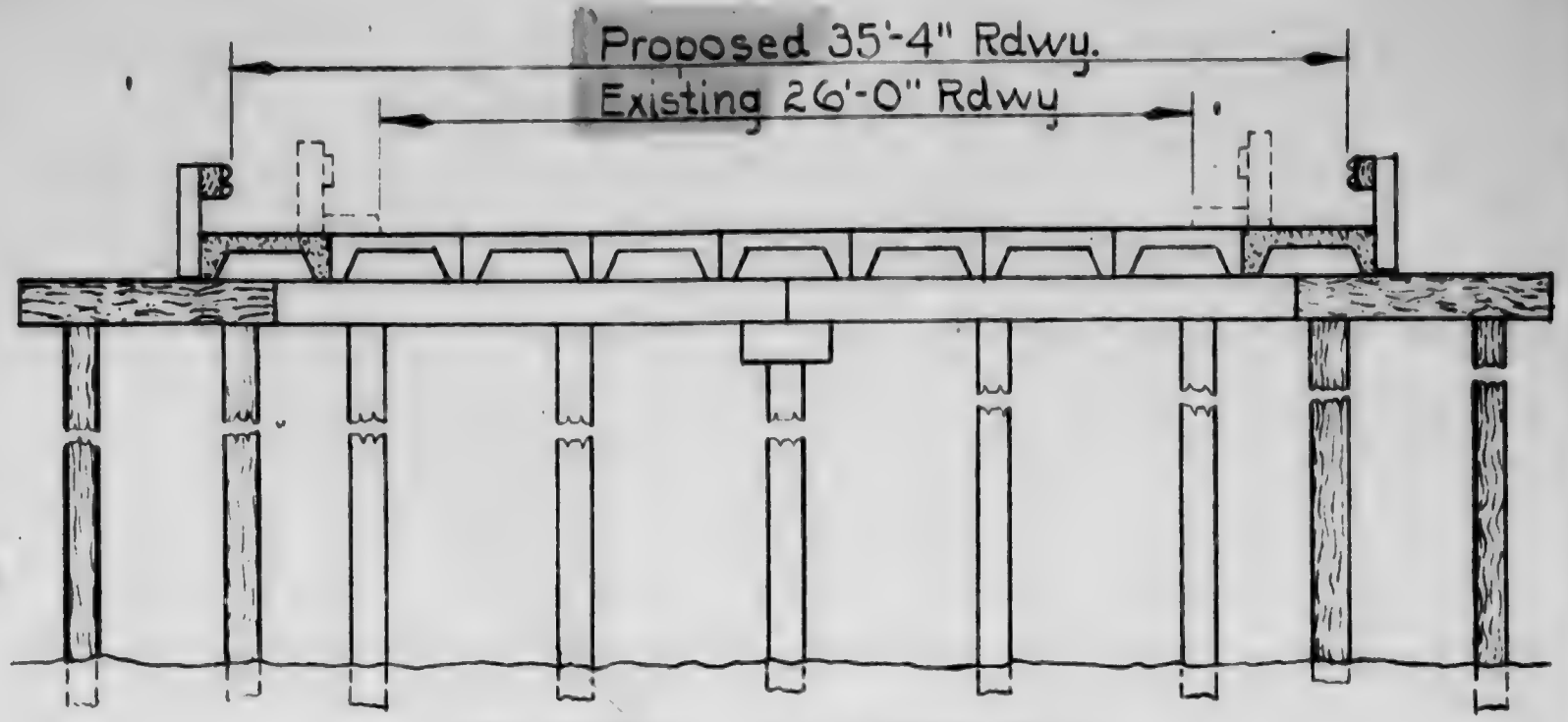
A. E. Johnson — DEPUTY HIGHWAY ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR — DATE

wy & Bridge



TYPICAL X-SECTION

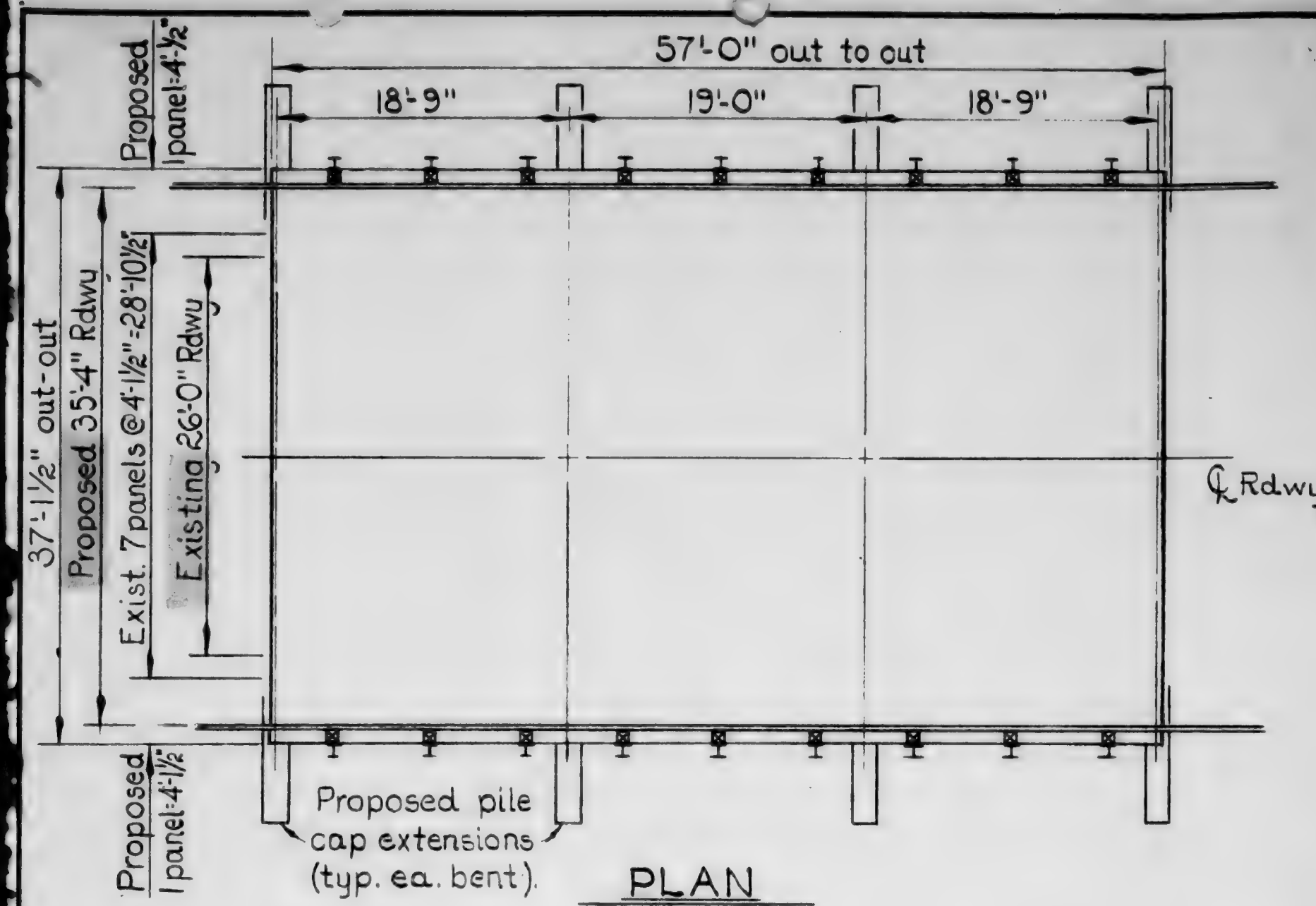
No Scale

OREGON STATE HIGHWAY DIVISION
BRIDGE SECTION

FIVE CORNERS ~ LAKEVIEW SECTION
PROPOSED THOMAS CREEK WIDENING
KLAMATH FALLS-LAKEVIEW & FREMONT HWYS. LAKE COUNTY

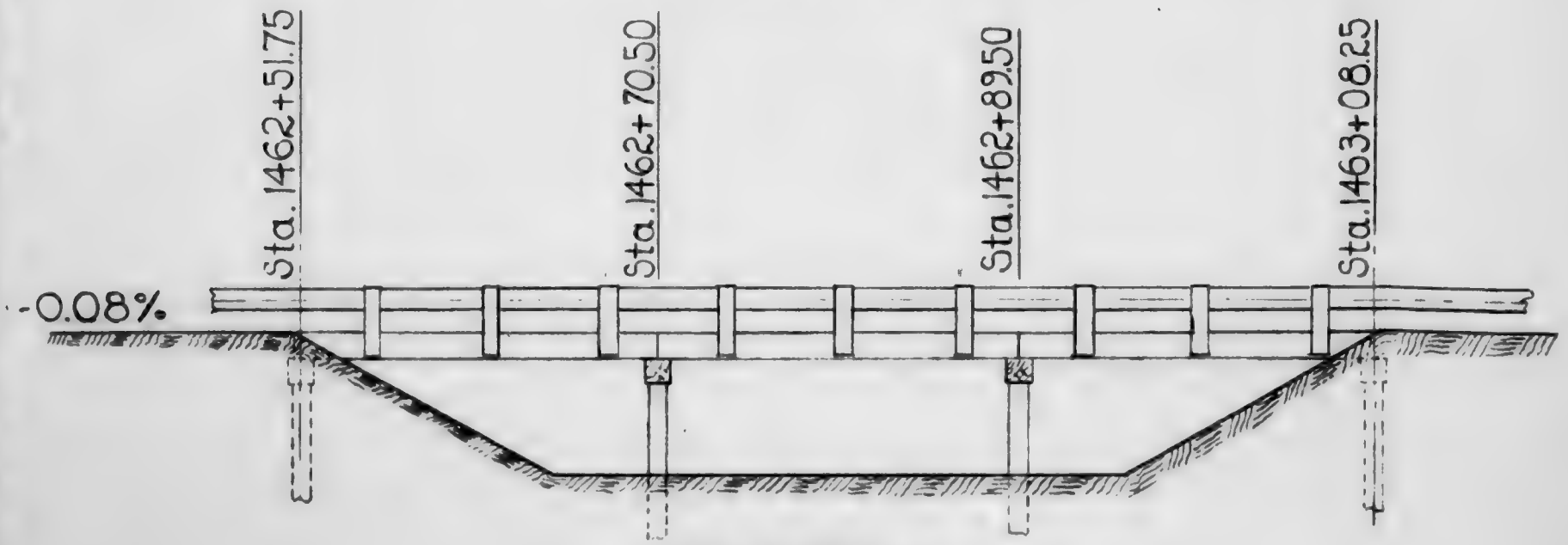
APPROVED: Walter L. Hart
BRIDGE ENGINEER

DATE MAY 19, 1975 BRIDGE NO. 8303A
DESIGNED
DRAWN T. H. DRAWING NO. B-668



PLAN

Scale: 1" = 10'



ELEVATION

Scale: 1" = 10'

DIETERICH POST OF WASH.

FORM 81-734.2030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

SALEM, OREGON

June 9, 1975

FILE: ~~PRO 4-3~~

FROM: L. W. Rulien
Project Management Engineer

TO: Mr. E. S. Hunter
Assistant State Highway Engineer

SUBJECT: Project Assessment
Five Corners-Lakeview and
Hunters Lodge Road-Lakeview Sect.
Lake County

Attached for your information is an assessment, concurred in by the FHWA.

Project Management classifies this section as a Category 3 project of non-major action.

Your approval will place this project in our Project Management System and allow its development in accordance with Action Plan procedures.

BLG:ljt
Attach.

cc: J. B. Boyd (3)
L. E. George
W. J. Hart
C. T. Keasey
J. H. Versteeg
Victor D. Wolfe
G. A. Potter (2)
Gary Sund
R. E. Royer
County/City Unit
D. E. Swan
B. L. Gifford
Region 4 : C. M. Williams
District 11 : J. L. Gunter

APPROVED
E.S.H.
E. S. Hunter
Date 6-10-75

6-11-75
ORIGINAL TO
L.W. Rulien
w/att.

RECEIVED
JUN 10 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

Oregon State Highway Division

PROJECT ENVIRONMENTAL ASSESSMENT

Date May 2, 1975

A. PROJECT IDENTIFICATION

RF - 32(6)
RS - 19-002(1)

Name of Project Five Corners-Lakeview and Hunters Lodge Rd.-Lakeview Section
(Section)

Location of Project Fremont Highway Klamath Falls-Lakeview (Highway Name) Ore. No. 19 and 20 (Highway No., US - ORE)

Lakeview (City) Lake (County) 4 (Region)

Program FA and FAS (Funding) $700,000 (Estimated Cost) 19-1482 (Prefix)

B. PURPOSE AND ORIGIN OF PROJECT

Purpose: Primarily an overlay to replace badly deteriorated surface. In the rural sections, the roadway will be widened to 32 feet and shoulders will be paved.

Origin and History:

C. DESCRIPTION OF PROJECT

Length 4.13 miles on Klamath Falls-Lakeview; 2.88 miles on Fremont Highway.

Termini Five Corners-Lakeview M.P. 92.24 to M.P. 96.37 on Klamath Falls-Lakeview Highway; Hunters Lodge-Lakeview M.P. 140.79 to M.P. 142.63 & M.P. 143.03 to M.P. 144.07 on Fremont Highway.

Alignment ☐ New ☒ Existing ☐ Combined

CATEGORY 3 PROJECT
NON-MAJOR

(Form (1) 9-74)

'Description of Project (cont.)

Right-of-Way (acreage and type of land use) No new right-of-way required.

Typical Section Two travel lanes with 4-foot shoulders. Existing curbs will be maintained, gravel slopes in rural areas may be widened.

Structures One box culvert will be extended seven feet. Four bridge structures will not be widened but will be protected by guard rails.

Characteristics (ADT) On the Klamath Falls-Lakeview Hwy. ADT ranges from 1,300 (MP 92.43) to 5,000 (MP 96.17). On the Fremont Hwy ADT ranges from 2,150 (MP 141.80) to 6,400 (MP 743.29).

Other General Information (or Supplemental information to items)

Existing pavement width is 22' in some places.

Project Sketch Map is Attached: [X] Yes [ ] No

D. LOCATION AND/OR DESIGN ALTERNATIVES (IDENTIFY AND DESCRIBE)

None

E. PUBLIC PARTICIPATION AND INTERAGENCY COORDINATION

Public Hearing(s) Schedule: [X] Not Required [ ] Required [ ] Recommended

Type _____ Tentative Date(s) _____

A-95 Review: [X] Not Required [ ] Required

F. BRIEF ENVIRONMENTAL SETTING OF PROJECT AREA

Natural (Topography, Flora, Soils, Water Features, Drainage, etc.) The project area is located along two highways, 4 miles west of Lakeview and 3 miles north of Lakeview. The topography is flat to rolling. Five Creeks which are part of the Goose Lake Drainage Basin are crossed by these roadways. The culvert crossing Hammersly Creek, an intermittent creek originating from springs in the hills east of Lakeview is the only stream crossing that will be altered. The natural vegetation in this arid high desert consists of sage, grasses and juniper. Much of the land in the project area is arid grazing land, irrigated pasture or cropland both irrigated and dry land.

Cultural (Land Use, Noise, Air Esthetics, Utilities, etc.) The project is located in and near the town of Lakeview (Population 2720). Land use varies over the project area from agricultural, and rural residential to urban residential and commercial (CBD). Two sets of train tracks will be crossed. One set is abandoned and will be covered, the other will be left in its existing condition. The pavement will be tapered approaching the tracks. Air quality, noise levels, and esthetics will not be affected by the project.

G. PRELIMINARY ASSESSMENT OF ENVIRONMENTAL IMPACTS

1. Estimated Right-of-Way Requirements:

   No new right-of-way is required.

   Consequences:

2. Estimated Changes in Traffic Patterns:

   No changes in traffic patterns are anticipated.

   Consequences:

3. Estimated Changes in Land Use:

   No changes in land use are anticipated.

   Consequences:

4. Expected Adverse Effects on Natural Ecological Resources:

   No adverse effects are anticipated.

   Consequences:

5. Expected Adverse Effects on Cultural and Scenic Resources:

   No adverse effects are anticipated.

   Consequences:

6. Preliminary Identification of Areas of Critical Environmental Concern:

There are no areas of critical concern.

7. Potential for Controversial Issues:

No controversial issues are involved.

H. STAFF REQUIREMENTS TO COMPLETE ENVIRONMENTAL IMPACT STUDIES AND DOCUMENTATION

ENVIRONMENTAL SECTION -

Personnel	EFFORT REQUIRED*		
	Minimum	Average	Maximum
Biologist			
Urban Economist			
Water Quality Spec.			
Acoustical Engineer			
Air Quality Engineer			
Cultural Geographer			
Urban Planner			
Geologist			

* For the sake of clarification and mutual understanding the terms minimum, average, and maximum effort have been defined as follows:

MINIMUM - Research and Project Management Staff consultation. No formal type-written report.

AVERAGE - Routine analysis. Short to medium length report including consideration of existing setting, probable impact, and steps to minimize harm.

MAXIMUM - Special detail of analysis. Comprehensive technical report.

I. TYPE OF DOCUMENTATION RECOMMENDED:

- ☐ Draft EIS
- ☐ Final EIS
- ☐ Supplemental Draft EIS
- ☐ Supplemental Final EIS
- ☐ Section 4(f)
- ☐ Negative Declaration
- ☐ State-Wide Negative Declaration
- ☐ Other _____

In accordance with Chapter 1, Title 23 CFR, Part 771, this project is judged to be a non-major action.

OF SHEETS
DESCRIPTION
...ons & Summary
...pplement

STATE OF OREGON

STATE HIGHWAY DIVISION

PLANS FOR PROPOSED PROJECT

FIVE CORNERS ~ LAKEVIEW AND HUNTERS LODGE RD. ~ LAKEVIEW SECTIONS

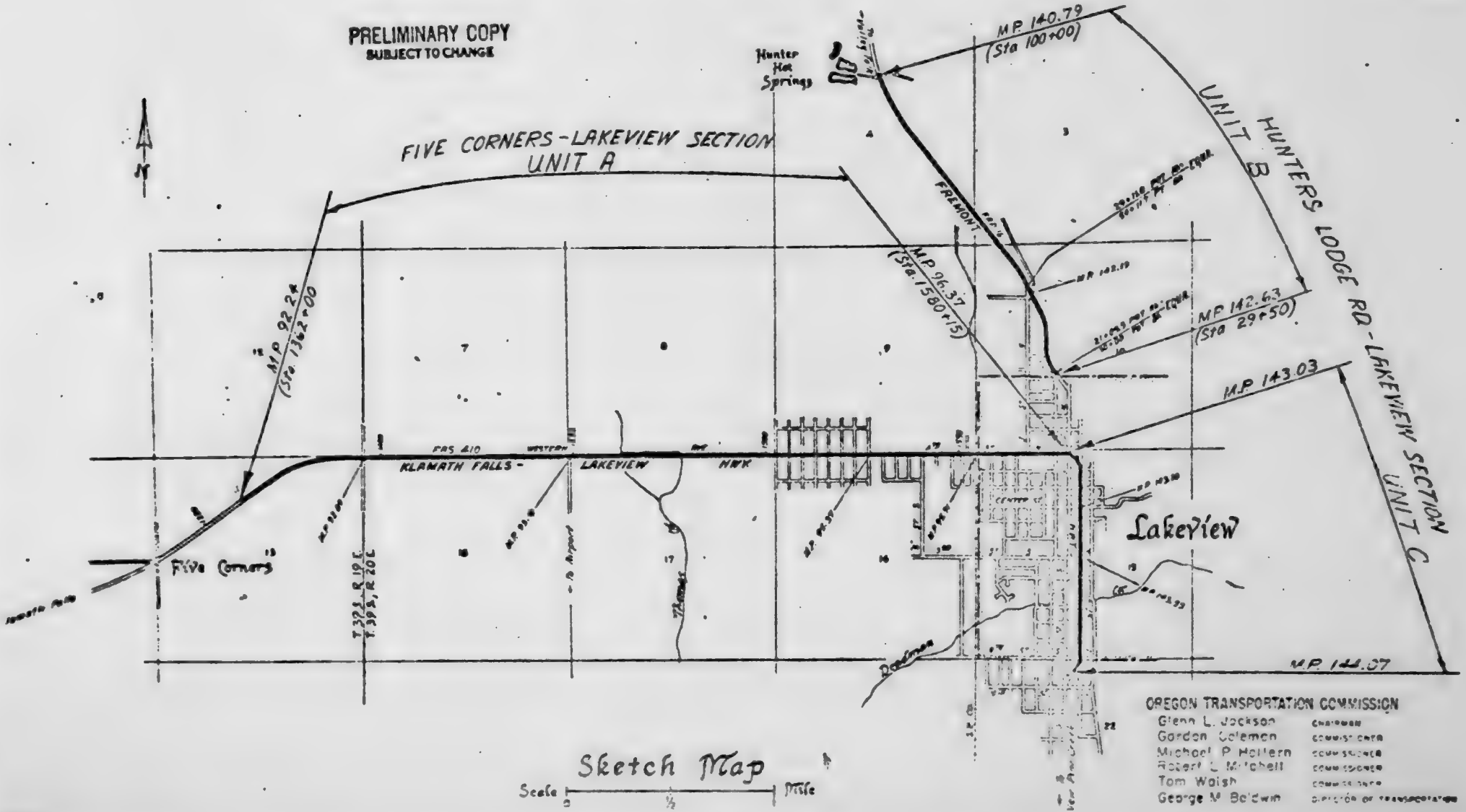
KLAMATH FALLS - LAKEVIEW & FREMONT HIGHWAYS

LAKE COUNTY

PRELIMINARY COPY
APR 30 1975
SUBJECT TO CHANGE
FINAL DESIGN UNIT

FIVE CORNERS - LAKEVIEW AND HUNTERS LODGE RD. - LAKEVIEW SECTIONS KLAMATH FALLS - LAKEVIEW & FREMONT HIGHWAYS LAKE COUNTY			
10	OREGON		

PRELIMINARY COPY
SUBJECT TO CHANGE



Sketch Map

Scale 0 ½ Mile

OREGON TRANSPORTATION COMMISSION

Glenn L. Jackson	CHAIRMAN
Gordon Coleman	COMMISSIONER
Michael P. Hallern	COMMISSIONER
Robert L. Mitchell	COMMISSIONER
Tom Walsh	COMMISSIONER
George M. Baldwin	DIRECTOR OF TRANSPORTATION

Fred B Klaboe

A E Johnson

DEPARTMENT OF TRANSPO
FEDERAL HIGHWAY ADMIN

APPROVED:

8254

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

6-4-75

LETTER OF APPROVAL AND/OR AUTHORIZATION

FEDERAL AID PROJECT NO.
-32(6) and RS-19-002(1)

STATE PROJECT NO.
Five Corners-Lakeview
Hunters Lodge-Lakeview

FROM:
G. L. Green, Division Engineer
Salem, Oregon

PROGRAM NO.

ITEM NO. RF-50 & RS-44

COUNTY NAME
Lake

PROGRAM STAGE (Check)
☐ 1. ☒ XX 2.

TO:

Mr. F. B. Klaboe
Administrator & State Highway Engineer
State of Oregon
Salem, Oregon

RECEIVED STATE HWY ENGR
JUL 23 75
REFER TO
FOR
Info
Inves
R/D
D/R
Sign
Act
File

DATE PS&E APPROVED	DATE AUTHORIZATION EFFECTIVE	FEDERAL ROUTE NUMBER	STATE ROUTE NUMBER
June 4, 1975	June 4, 1975	Primary Route 16 & Secondary 410	Primary Routes 19 and 20

GENERAL LOCATION:
SR 31, Lakeview SCL North 3.3 miles and SR 140, Junction SR 31 (Lakeview), West 4.1 miles

GENERAL DESCRIPTION OF WORK:
Grade, drain, high type pavement

E.S. HUNTER A

YOU ARE AUTHORIZED TO PROCEED WITH THE WORK CHECKED BELOW

PRELIMINARY ENGINEERING TO DETERMINE
☐ LOCATION ONLY

PRELIMINARY ENGINEERING FOR SURVEY AND PLAN
☐ PREPARATION

☒ OTHER (Specify)
Permanent Pavement Striping $2,000
Temporary Erosion Control 2,000
On the Job Training 800

☐ ACQUISITION OF RIGHT-OF-WAY

CONSTRUCTION - ADVERTISE FOR RECEIPT
☒ OF BIDS

☐ CONSTRUCTION - PROCEED ON AN AGREED PRICE AND/OR FORCE ACCOUNT BASIS

REMARKS

After concurrence in award you are authorized to proceed with items listed above as shown in your estimate.

Mr. Rulien's June 2, 1975 request and certifying statements are accepted.

PS&E documents for the subject project have been reviewed and are approved.

A signed title sheet is returned herewith.

7-24-75
ORIGINAL TO
L.W. Rulien
W/att.

DATE	SIGNATURE OF APPROVING OFFICIAL	TITLE
6-4-75	C R Baumgardt for	Division Engineer

FORM PR-1240 (REV. 8-70) EXISTING STOCKS OF FORM PR-1240 (REV. 6-68) WILL BE USED

Scale

87-54

R

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: June 2, 1975

In reply refer to: 1041EC.1

SUBJECT: Oregon RF-32(6)
Five Corners-Lakeview and Hunters Lodge Road-Lakeview Section
Project Assessment

FROM : G. L. Green, Division Engineer

TO : Mr. F. B. Klaboe, Administrator & State Highway Engineer
Salem, Oregon

NOTED
E. S. HUNTER

The subject project assessment submitted with Mr. Rulien's May 12 letter has been reviewed. We concur with your finding that the proposed project constitutes a non-major action.

It should be understood that our concurrence is only on the type of action. The proposed standards, the design, and other specific details contained in the assessment will be subject to future reviews at the appropriate stage during the project development.

William A. Kappus
for G. L. Green

cc:
OSHD (Potter)
OSHD (Laux)

6-5-75
ORIGINAL TO
L.W. Rulien
to handle.

RECEIVED
JUN 5 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

RECEIVED
STATE HWY ENGR
JUN 4 '75
REFER TO
FOR
Info | Inves | R/D | D/R | Spec | Act | File

8254

20

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon

May 15, 1975

FILE:

FROM: J. H. Versteeg
Road Design Engineer

TO: MEMORANDUM TO THE FILES

SUBJECT: Thomas Creek Structure
M.P. 94.15
Five Corners-Lakeview Section
Klamath Falls-Lakeview Highway

The typical section for this project calls for a 32' wide roadway. The existing Thomas Creek structure is 26' in width and the FHWA has recommended that it be widened. Adjacent structures at M.P. 93.81, 94.44 and 94.7 are all 34' in width so it would seem that a 34' width at Thomas Creek would be a reasonable selection for this class of highway.

Len Wallace of the Bridge Section will prepare a structure widening proposal which will be included in the project authorization as an extra work item. The FHWA has agreed to participate in the cost of widening the Thomas Creek structure.

JHV:jh
cc: Glenn Hossner
Carl Williams
L. W. Rulien
Len Wallace
Wayne Cobine
C. G. Swenson

Versteeg
A. Olsen
Tempel
Scott
Swenson
R. Olson
Trout

RECEIVED
MAY 16 1975
ROAD DESIGN SECTION

Signature Reply
Requires Approval
Receiver Keep
Do not File
Return
Bring Up
Other

R

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Transaction No. 5-82

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS

(PPM 21-1)

STATE HIGHWAY DEPARTMENT	DATE
Oregon	5-13-75
BY (Signature) L. W. Rulien's May 8, 1975 letter	
TITLE Project Management Engineer	

CLASS OF FEDERAL FUNDS ☐ FAI ☒ FAP ☐ FAU ☐ FAS ☐ OTHERS _____

STAGE 1 * ITEM NOS. _____ THRU _____		STAGE 2 ITEM NOS. 50 THRU _____		FEDERAL FUNDS	OTHER IDENTIFICATION AND/OR REMARKS (State)
ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST		
50	RF-32(6)	2.88	338,000	264,200	Location: Hunters Lodge Road-Lakeview Section, Lake County, State of Oregon Work: Grade, drain high type pavement

NOTED
E. S. HUNTER

RECEIVED
STATE HWY ENGR
MAY 15 '75
REFER TO Hunter
FOR
Info | Inves | R/D | D/R | Sign | Act | File ✓

5-15-75
ORIGINAL TO
L.W. Rulien

REMARKS (Division)

RECEIVED
MAY 15 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

RECOMMENDED DATE	RECOMMENDED SIGNATURE AND TITLE	APPROVED DATE	APPROVED SIGNATURE AND TITLE
		5-13-75	C R Bennett for C. L. Green, Division Engineer

* Program approval and any authorization to proceed with a Stage 1 project shall not constitute any commitment of Federal funds nor shall it be construed as creating in any manner, tion on the part of the Federal Government to provide Federal funds for the undertaking.

FORM PR-48
(Rev. 5-71)

5-13-75

4954

Transaction No. 5-81

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TRANSMITTAL AND REQUEST FOR INITIAL PROGRAM APPROVAL OF PROJECTS

(PPM 21-1)

STATE HIGHWAY DEPARTMENT: Oregon

DATE: 5-13-75

BY (Signature): L. W. Rulien's May 7, 1975 letter

TITLE: Project Management Engineer

CLASS OF FEDERAL FUNDS: ☐ FAI ☐ FAP ☐ FAU ☒ FAS ☐ OTHERS

STAGE 1* ITEM NOS. _____ THRU _____

STAGE 2 ITEM NOS. 44 THRU _____

ITEM NO.	PROJECT NOS.	LENGTH (Miles)	TOTAL ESTIMATED COST	FEDERAL FUNDS
44	RS-19-002(1)	4.13	494,000	386,200

OTHER IDENTIFICATION AND/OR REMARKS (State)

Location	Work
Five Corners-Lakeview Section Lake County State of Oregon	Grade, drain high type pavement

RECEIVED
STATE HWY ENGR
MAY 14 '75
REFER TO Hunter
FOR
Info | Inves | R/D | D/R | Sign | Act | File

NOTED
E. S. HUNTER

5-15-75
ORIGINAL TO
L. W. Rulien

RECEIVED
MAY 14 1975
OFFICE OF
ASSISTANT STATE HIGHWAY ENGINEER

5-13-75

REMARKS (Division)

This approval is granted with the understanding that the structure at MP 94.15 will be widened under price agreement or by separate contract in the near future.

You are authorized to proceed with actions necessary to advance to completion the physical construction provided for by the above project in accordance with the provisions of your approved Secondary Road Plan. If you subsequently find that exceptions to the procedure will be needed or that your proposed design standards for this project are lower than the minimum design standards as approved May 13, 1970, this office should be notified of such proposed exceptions and reasons thereof.

RECOMMENDED DATE	RECOMMENDED SIGNATURE AND TITLE	APPROVED DATE	APPROVED SIGNATURE AND TITLE
		5-13-75	G. L. Green, Division Engineer

* Program approval and any authorization to proceed with a Stage 1 project shall not constitute any commitment of Federal funds nor shall it be construed as creating in any manner, any obligation on the part of the Federal Government to provide Federal funds for the undertaking.

GPO 915-880

8254

R

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Bend, Oregon, 97701

May 12, 1975

FILE: ~~MAI 12-11~~

NOTED
H. S. COULTER

FROM: John E. Holcomb
Regional Traffic/Utility Engineer

TO: MEMO TO THE FILES:

SUBJECT: Bagley Ditch Crossing
Five Corners-Lakeview Section
Klamath Falls-Lakeview Highway
Lake County

April 3, 1974 I met with Lake County Watermaster, Howard Daggett. Howard asked me to drive out to the subject ditch crossing and look over a problem which has developed along the northerly side. Daggett stated that he has received complaints from a Donna DeVeny. She purchased an old school house which had been moved to this location and is in the process of remodeling the building.

The problem, as it relates to the highway, is with the Bagley Ditch which is an irrigation facility running southerly along the westerly side of Ms DeVeny's property and crosses under the highway in a 24 inch concrete pipe. Over a period of several years ranchers up stream have changed the drainage to the point where now more water comes down the Bagley ditch than was originally intended.

During periods of high run off the ditch carries a lot of trash. When the increased water and trash reach the highway it backs up, flooding Ms. DeVeny's yard. It continues to back up until it reaches the elevation of the highway ditch, then runs easterly down the highway ditch to Thomas Creek.

Daggett stated that the drainage pattern up stream has been changed many times over several years. There is no organized drainage or irrigation district.

I told Daggett I would suggest to my people that we not become a party to any unorganized effort to correct this problem. First, the problem existed before Ms DeVeny bought the property. Second, any corrective measure we take at the highway could and would have extending reactions down stream. We could be flooding lands that are now dry. I told Daggett I would take this up with District Engineer, Gunter, but reiterated that I would recommend against the Division doing anything.

During the week of April 14, 1975, I received a phone call from Ms DeVeny. She said Daggett suggested she call me. She was upset because the area is in its spring thaw and the Bagley ditch is flooding her place again. Her septic tank and drain field are flooded and things are bad all the way. I explained the state's position to her. She said she was tired of getting the run-around and would keep going until she got some action. She wanted to know why the state couldn't lower the highway ditch to carry off the water.

RECEIVED
MAY 13 1975
TRAFFIC ENGINEERING

F NOTED

I tried to explain that the problem was not caused by the highway and therefore we couldn't use public funds to correct it.

She told me that Deene Moulton, Phone 947-2923, owned property down stream (southerly) of the highway and was one of those who owned the ditch. She claimed Mr. Moulton had expressed an interest in enlarging the pipe size because he could use more water. I attempted to reach Mr. Moulton by phone but was unable to do so. I did speak with his foreman. He claimed he knew nothing of the situation.

I discussed these events with District Engineer John Gunter and also with R. C. Pool, Regional Maintenance Engineer. Gunter said he was getting ready to clean the highway ditch with a dragline. He had intended to wait until his foreman, Don Orey, returned from vacation in three weeks but would see if he couldn't get things started sooner.

On or about May 9, 1975, I returned a call to Resident Engineer Wayne Cobine. Cobine said Ms DeVeny had been into his office and she was quite angry. She said the ditch cleaning would do her no good and if she didn't get some action she was going to the Governor. Cobine and I discussed this situation. He said he had talked with Daggett but Daggett wasn't sure Moulton wanted to enlarge the pipe because if he did he might flood the airport. Cobine said Daggett had offered to change the headgate size upstream, but there is no certainty that this would be effective.

In discussing this with Carl Williams, Carl stated it was about time we started getting this down on paper. Via a copy of this memo I am requesting Gunter and Cobine to write a memo of their knowledge of the status of things. I will also write Daggett and ask him to give us something in writing.

JEH:pw

cc: John L. Gunter
Wayne Cobine
James Chidsey
Jack Sollis
V.D Wolfe.
R.L. Lenz
H.S Coulter

54

R

May 8, 1975

ert W. Straub
XXXXXXXXXX

TO G. L. Green, Division Engineer
Federal Highway Administration

FROM L. W. Rullen
Project Management Engineer

SUBJECT Program Data Submission
Project No. RF-32(6)

We are submitting program data for one project, Item No. 50, Project No. RF-32(6), "Hunters Lodge Rd.-Lakeview Section", which we desire to have included in the Federal-aid Rural Primary Highway Program.

It is our intention to receive bids for this project on June 26, 1975.

We request your concurrence that the project qualifies for the timesaving procedures enumerated in FHPM 6-8-2.1.

We further request your concurrence that the project falls in the classification of non-major action as set forth in FHPM 7-7-2, par. 10e based on the "State Environmental Assessment for Highway Safety Improvement Projects" concurred in by FHWA Division Office February 25, 1975.

We also request your concurrence that the roadway section set forth on the back of the PR-1 form is satisfactory for the project as the pavement rehabilitation work will have a substantial safety benefit evident in improved vehicle control.

The preceding request is based on the fact that a rapidly spiraling inflation coupled with reduced revenues necessitates examining all of our projects to attempt to keep costs within available funds in order to construct as many miles of needed highway improvements as possible to retain present investment without major reconstruction at this time. To accomplish this goal dictates exceptions to upgrading the project to present day standards, yet provides substantial improvement in safety and traffic service that is acceptable for the life of the project and retain compatibility with adjacent sections of highway.

Enc.

DRH:twm

Budget Bureau No. 41-R2067; A

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO B. O.

FORM PR-1 (REV. 4-61)

5-8-75

U.S. D

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

CARD 2	REPORT NUMBER (19)-(20)	PROJECT LOCATION (45 typewriter spaces) 21-65		ADT	PRESENT	FUTURE (66)-(70)	YEAR (71)-(72)	REGION	STATE NAME			
	1	SR 31, Lakeview SCL, N. 3.3 mi.			3,100	5,300	95	10	Oregon			
CARD 3	CHARACTER OF PROPOSED WORK (35 typewriter spaces) 28-62		NATL. FOREST (63)-(65)	FH ROUTE NO. (66)-(69)	SUPV AGCY (69)	DA CLASSIF. (70)	DA AREA (71)	EMERG. YR. (72)-(73)	PL. AUTH YR (74)-(75)	PROJECT NUMBER PREFIX LETTER(S) 14-23		NUMBER 7
	Gr., Dr., H.T. Pave.									RF-		32
CARD	CLASS OF FEDERAL FUNDS						COUNTY NAME				CODE (77)-(79)	
	Rural Primary						Lake				037	
	NAME OF URBAN AREA 17-31						ROUTE NO.	FEDERAL-AID (32)		STATE (36)-(37)	U.S.	
							P	16		19		

CARD 5	LINE NO. (1)-(4)	CHANGE CODE (10)	PROJECT CODE 41	WORK CLASS 42	WORK TYPE 43-46	STEP 53	TERMINI (Full description)	MILES (54)-(58)	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST (59)-(66)	FEDERAL FUNDS (67)-(70)	STATE FUNDS	OTHER FUNDS
5					PE		SR 31, Lakeview SCL N. 3.3 Mi.					
5					ROW		(0.40 miles no work area-M.P. 142.63 to M.P. 143.03)					
5					CONST (CODE) (Safety) 6201		"Hunters Lodge Rd.-Lakeview Section"	2.88	338,000	264,200	73,800	
								2.88	338,00	264,200	73,800	

CARD 1	CODE 1	PREPARED BY	PROJECT TOTALS
1	14	PROGRAM APPROVAL DATES	(10)-(23) (24)-(33) REMARKS

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

FORM PR-1 (REV. 4-61)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

5-8-75

PROJECT LOCATION (45 typewriter spaces)		PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPN CODE	ITEM NO.
SR 31, Lakeview SCL, N. 3.3 mi.	ADT	3,100	5,300	95	10	Oregon	41	073	50

PROPOSED WORK (35 typewriter)	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.	I. Projects Only POST MI.	DESIG.
H.T. Pave.								RF-	32	(6)		

FUNDS	COUNTY NAME	CODE	PROGRAM STAGE
Rural Primary	Lake	037	1 OR X 2

ROUTE NO.	FEDERAL-AID	STATE	U.S.
P	16	19	

WORK TYPE	STEP	TERMINI (Full description)	MILES	TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
PE		SR 31, Lakeview SCL N. 3.3 Mi.						Gr., Dr., H.T. pavement overlay consisting of travel lane, shoulder improvement and safety revision of roadway slopes and appurtenances.
ROW		(0.40 miles no work area-M.P. 142.63 to M.P. 143.03)						
CONST (CODE) (Safety) 6201		"Hunters Lodge Rd.-Lakeview Section"	2.88	338,000	264,200	73,800		ROW-60' min.; Access control-none; Parking Restrictions-None.
BY		PROJECT TOTALS	2.88	338,00	264,200	73,800		

APPROVAL DATES

REMARKS

-over-

HUNTERS LODGE RD.-LAKEVIEW SECTION
PROJECT NO. RF-32(6)

Existing Facility: Two 10-foot bituminous surfaced travel lanes with 4-foot shoulders (M.P. 140.79 to M.P. 142.63) and 52-foot bituminous surfaced curbed section (M.P. 143.03 to M.P. 144.03).

Adjacent Facility:

North End - - Two 10-foot bituminous surfaced travel lanes with 4-foot shoulders.

South End - - Two 10-foot bituminous surfaced travel lanes with 10-foot shoulders.

Project Data: Work consists of resurfacing with high-type pavement overlay to provide two 12-foot travel lanes with 4-foot paved shoulders (M.P. 140.79 to M.P. 142.63) and 10-foot nominal paved shoulders (M.P. 143.03 to M.P. 144.07) including shoulder improvement with related grading and drainage as required. Safety revisions of roadway appurtenances (e.g. guardrail, minor drainage structures, etc.) and incidental work common to this type of project.

Right-of-Way: No additional required.

System Action, Railroads, Airports, Water Development, Historical and Recreation Areas: None involved.

IM 50-1-70 Requirements: Exempt from State Clearinghouse A-95 review under working agreement dated April 28, 1970. District 11 has no functioning clearinghouse.

Urban Transportation Planning (PPM 50-9): Not applicable.

FHPM 7-7-2 Requirements: Non-major action project concurred in by the FHWA February 25, 1975.

FHPM 7-7-5 Requirements: Not applicable under "Timesaving set forth in FHPM 6-8-2.1.

(a) Public Hearings--Not required under the pro Par. 6c.

(b) Location/Design--Not a factor in the develo project.

NOTE: (1) On-the-job trainees, as set forth in FHWA orde 7-2(2), on this project will be determined at stage and the number stipulated in the P.S. &

(2) This project is in Congressional District No.

(3) The project qualifies as a "Safety Improvement under the provisions of FHPM 6-8-2.1 as the pa habilitation work will have a substantial safe evident in improved vehicle control through (a of ruts in the wheel paths; (b) reduced tenden vehicle to hydroplane in wet weather because o tention on the pavement; (c) increased visibil weather because of reduced vehicle spray; and skid-resistant property of the pavement surfac

(4) The work under this project is to be accomplis the same contract as Project No. RS-19-002(1). overall contract will be known as "Five Corner and Hunters Lodge Rd.-Lakeview Sections".

8054

PRO 6-2

R

Robert W. Straub
XXXXXXXXXX

May 7, 1975

TO G. L. Green, Division Engineer
Federal Highway Administration

FROM L. W. Rullen
Project Management Engineer

SUBJECT Program Data Submission
Project No. RS-19-002(1)

We are submitting program data for one project, Item No. 44, Project No. RS-19-002(1), "Five Corners-Lakeview", which we desire to have included in the Federal-Aid Rural Secondary Highway Program.

It is our present intention to receive bids for this project on June 26, 1975.

We request your concurrence that the project falls in the classification of non-major action as set forth in FHPM 7-7-2, par. 10e based on the "State Environmental Assessment for Highway Safety Improvement Projects" concurred in by FHWA Division Office February 25, 1975.

We also request your concurrence that the roadway section set forth on the back of the PR-1 form is satisfactory for the project as the pavement rehabilitation work will have a substantial safety benefit evident in improved vehicle control.

The preceding request is based on the fact that a rapidly spiraling inflation coupled with reduced revenues necessitates examining all of our projects to attempt to keep costs within available funds in order to construct as many miles of needed highway improvements as possible to retain present investment without major reconstruction at this time. To accomplish this goal dictates exceptions to upgrading the project to present day standards, yet provides substantial improvement in safety and traffic service that is acceptable for the life of the project and retain compatibility with adjacent sections of highway.

ENC.

DBH:mm

Budget Bureau No. 41-R2067; Appr

U.S. DEP
BU

MONTHLY TRANSACTION NO.

DATE SUBMITTED TO B. O. 5-7-75

FORM PR-1 (REV. 4-61)

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

CARD 2 | REPORT NUMBER: 1 | PROJECT LOCATION (45 typewriter spaces): SR 140, Jct. SR 31(Lakeview), W. 4.1 mi.

ADT | PRESENT: 2,200* | FUTURE: 3,500 | YEAR: 95 | REGION: 10 | STATE NAME: Oregon

CARD 3 | CHARACTER OF PROPOSED WORK (35 typewriter spaces): Gr., Dr., H.T. Pave | NATL. FOREST | FH ROUTE NO. | SUFV AGCY | DA CLASSIF. | DA AREA | EMERG. YR. | PL. AUTH YR

PROJECT NUMBER: PREFIX LETTER(S): RS- | NUMBER: 19-002

CARD | CLASS OF FEDERAL FUNDS: Rural Secondary | COUNTY NAME: Lake | CODE: 037

NAME OF URBAN AREA: - - | ROUTE NO. S | FEDERAL-AID: 410 | STATE: 20 | U.S.: - -

ESTIMATED PROJECT COST BY PHASES

CARD 5	LINE NO.	CHANGE CODE	PROJECT CODE	WORK CLASS	WORK TYPE	STEP	TERMINI (Full description)	MILES	TOTAL ESTIMATED COST'	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS
1	(1&15)	(16)	41	42	43 46	53		(54) (58)	(59) (66)	(67) (70)		
5					PE		SR 140, Jct. SR31 (Lakeview), W. 4.1 mi.					
5					ROW							
5					CONST (CODE) (Safety) 6201		"Five Corners-Lakeview Section"	4.13	494,000	386,200	107,800	
							PROJECT TOTALS	4.13	494,000	386,200	107,800	

(10) (23) (24) (25)

REMARKS

*DHV 350

CARD 1 | CODE 1 | PREPARED BY

1 | 14 | PROGRAM APPROVAL DATES

Budget Bureau No. 41-R2067; Approval Expires February 28, 1966

FORM PR-1 (REV. 4-61)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

FEDERAL-AID PROGRAM DATA

(PPM 21-1)

5-7-75

PROJECT LOCATION (45 typewriter spaces)		ADT	PRESENT	FUTURE	YEAR	REGION	STATE NAME	STATE CODE	APPN CODE	ITEM NO.					
SR 140, Jct. SR 31(Lakeview), W. 4.1 mi.			2,200*	3,500	95	10	Oregon	41	075	44					
DESCRIPTION OF PROPOSED WORK (35 typewriter spaces)	NATL. FOREST	FH ROUTE NO.	SUPV AGCY	DA CLASSIF.	DA AREA	EMERG. YR.	PL. AUTH YR	PROJECT NUMBER PREFIX LETTER(S)	NUMBER	SEQ. NO.					
Gr., dr., H.T. Pave								RS-	19-002	(1)					
FEDERAL FUNDS	COUNTY NAME														
Rural Secondary	Lake														
URBAN AREA	ROUTE NO.	FEDERAL-AID		STATE		U.S.									
- -	S	410		20		- -									

PROJECT CODE	CLASS	WORK TYPE	STEP	TERMINI (Full description)	MILES	ESTIMATED PROJECT COST BY PHASES: TOTAL ESTIMATED COST	FEDERAL FUNDS	STATE FUNDS	OTHER FUNDS	CHARACTER OF PROPOSED WORK (Full description)
	42	PE		SR 140, Jct. SR31 (Lakeview), W. 4.1 mi.						Gr., dr., H.T. pavement overlay consisting of travel lane, shoulder improvement and safety revisions of roadway slopes and appurtenances.
		ROW								
		CONST (CODE) (Safety) 6201		"Five Corners-Lakeview Section"	4.13	494,000	386,200	107,800		ROW - 100' min.; Access Control-none; Parking Restrictions-None.
				PROJECT TOTALS	4.13	494,000	386,200	107,800		

PREPARED BY

PROGRAM APPROVAL DATES

REMARKS

*DHV 350

PROGRAM STAGE: [ ] 1 OR [X] 2

T. Projects Only: POST MI. / DESIG.

-over-

USCOMM DUSCOMM-DC 48908-P61

FIVE CORNERS-LAKEVIEW SECTION
PROJECT NO. RS-19-002(1)

Existing Facility: Two 11-foot bituminous surfaced travel lanes with 3-foot shoulders (M.P. 92.23 to M.P. 95.35), 40-foot bituminous surfaced roadway (M.P. 95.35 to M.P. 95.91) and a 44-foot curb section to the junction of the Fremont Highway (M.P. 95.91 to M.P. 96.37).

Adjacent Facility: West End - - Two 11-foot bituminous surfaced travel lanes with 3-foot shoulders.
East End - - Junction with Fremont Highway

Project Data: Work consists of resurfacing with high-type pavement overlay to provide two 12-foot travel lanes with 4-foot paved shoulders (M.P. 92.23 to M.P. 95.35) and 8-foot nominal paved shoulders (M.P. 95.35 to M.P. 96.37) including shoulder improvement with related grading and drainage as required. Safety revisions of roadway appurtenances (e.g., guardrail, minor drainage structures, etc.) and incidental work common to this type of project.

Right of Way: No additional required.

System Action, Railroads, Airports, Water Development, Historical and Recreation Areas: None involved. (Note: Lakeview Municipal Airport lies southerly within 2 miles of this project, but the proposed facility will not cause any conflict with the operation of the airport.)

IM 50-1-70 Requirements: Exempt from State Clearinghouse A-95 review under working agreement dated April 28, 1970. District 11 has no functioning clearinghouse.

FHPM 7-7-2 Requirements: Nonmajor action project concurred in by the FHWA February 25, 1975.

FHPM 7-7-5 Requirements:

(a) Public Hearings - Not required under the provisions of Par. 6c.
(b) Location/Design - Not a factor in the development of this project.

NOTE: (1) On-the-Job trainees, as set forth in FHWA d
7-2(2), on this project will be determined
stage and the number stipulated in the P.S.

(2) This project is in Congressional District

(3) The project qualifies as a "Safety Improvem
under the provisions of FHPM 6-8-2.1 as th
habilitation work will have a substantial
evident in improved vehicle control throug
of ruts in the wheel paths; (b) reduced te
vehicle to hydroplane in wet weather becaus
tention on the pavement; (c) increased visi
weather because of reduced vehicle spray;
skid-resistant property of the pavement sur

(4) The work under this project is to be accomp
the same contract as Project No. RF-32(6).
contract will be known as "Five Corners-Lak
Hunters Lodge Rd.-Lakeview Sections".

FIVE CORNERS-LAKEVIEW SECTION
PROJECT NO. RS-19-002(1)

cility: Two 11-foot bituminous surfaced travel lanes
shoulders (M.P. 92.23 to M.P. 95.35), 40-foot bituminous
adway (M.P. 95.35 to M.P. 95.91) and a 44-foot curb section
tion of the Fremont Highway (M.P. 95.91 to M.P. 96.37).

cility: West End - - Two 11-foot bituminous surfaced travel
lanes with 3-foot shoulders.
East End - - Junction with Fremont Highway

: Work consists of resurfacing with high-type pavement over-
de two 12-foot travel lanes with 4-foot paved shoulders (M.P.
. 95.35) and 8-foot nominal paved shoulders (M.P. 95.35 to
including shoulder improvement with related grading and
required. Safety revisions of roadway appurtenances (e.g.,
inor drainage structures, etc.) and incidental work common
of project.

: No additional required.

n, Railroads, Airports, Water Development, Historical and
reas: None involved. (Note: Lakeview Municipal Airport
ly within 2 miles of this project, but the proposed facility
se any conflict with the operation of the airport.)

equirements: Exempt from State Clearinghouse A-95 review
g agreement dated April 28, 1970. District 11 has no
clearinghouse.

equirements: Nonmajor action project concurred in by the
y 25, 1975.

equirements:

lic Hearings - Not required under the provisions of
Par. 6c.
cation/Design - Not a factor in the development of this
project.

NOTE: (1) On-the-Job trainees, as set forth in FHWA order interim 7-2(2), on this project will be determined at P.S. & E. stage and the number stipulated in the P.S. & E. documents.

(2) This project is in Congressional District No. 2.

(3) The project qualifies as a "Safety Improvement Project" under the provisions of FHPM 6-8-2.1 as the pavement rehabilitation work will have a substantial safety benefit evident in improved vehicle control through (a) eliminati of ruts in the wheel paths; (b) reduced tendency of a vehicle to hydroplane in wet weather because of water retention on the pavement; (c) increased visibility in wet weather because of reduced vehicle spray; and (d) increased skid-resistant property of the pavement surface.

(4) The work under this project is to be accomplished under the same contract as Project No. RF-32(6). The overall contract will be known as "Five Corners-Lakeview and Hunters Lodge Rd.-Lakeview Sections".

8054

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

TO Oregon ~~State Highway~~ Transportation ~~xxxxxxxxxxx~~ Commission

DATE March 28, 1975

FROM F. B. Klaboe
State Highway Engineer

SUBJECT Finance Approval
Federal-aid Projects

The following surveys have been completed as a part of our accelerated construction program to comply with the President's stimulation to the construction industry.

I recommend these projects for federal-aid finance and request your authorization to proceed with early contract lettings.

Chemawa Road-Hayesville Interchange Section, Pacific Highway East, Marion County: Grade and Pave	PFA	$2,000,000
S.W. Clay St.-S.W. Sheridan St., Pacific Highway West, Multnomah County: Roadside Improvement	FAU	$ 160,000
Junction City-Airport Rd. Section Pacific Highway West, Lane County: Grade, Pave and Structure	FA	$6,750,000
McNary-Diagonal Road Section, Columbia River Highway, Umatilla County: Paving	FA	$ 400,000
Fern Hill-Astoria Section, Lower Columbia River Highway, Clatsop County: Paving	FA	$1,000,000
N.W. 31st Ave.-N.W. 112th Ave. (Portland) Section, Lower Columbia River Highway, Multnomah County: Paving	FAU	$ 375,000

BLG:js
srb
hc
C. W. ...
George ...
A. E. ...
E. S. ...
R. L. ...
H. S. ...
L. W. ...
V. E. ...
Gary ...
Jack ...
This ma... at the ...
Jordan ... I.O.H. ... Grade ...
Ruch ... Jackso...
Lan... tion ... Coun...
E... Kl... La...

Ross Island Bridge Interchange Section, Oswego Highway, Multnomah County: Paving	FAU	$	155,000
Necanicum Highway Jct.-Brighton Section, Oregon Coast Highway, Tillamook County: Paving	FA	$	650,000
Hunter Lodge (M.P. 140.95)-SCL Lakeview Section, Fremont Highway, Lake County: Paving	FA	$	240,000
Link River-Homedale Rd. Section, Klamath Falls-Lakeview Highway, Klamath County: Paving	FAU	$	500,000
Five Corners-Lakeview Section, Klamath Falls-Lakeview Highway, Lake County: Paving	FAS	$	460,000
Lancaster Dr.-Deer Park O'xing Section, N. Santiam Highway, Marion County: Paving	FAU FAS	$	240,000 240,000
Ruch Section, Jacksonville Highway, Jackson County: Grade and Pave	FAS	$	300,000
Jordan Valley-Jordan Creek Section, I.O.N. Highway, Malheur County: Grade and Pave	FAS	$	1,500,000

This matter will be on the agenda for your consideration at the March 31 meeting.

bc C. W. Head
George M. Baldwin
A. E. Johnson
E. S. Hunter
R. L. Schroeder
H. S. Coulter
L. W. Rulien
V. E. Skoog
Gary Sund
Jack Graham

BLG:js srb

• 8255 Veneta (Second St.) Sec. 1975
• City Street
• (Grading and paving)

CIA 5224 2-26-75

FISCAL YEAR

75-76

OREGON STATE HIGHWAY DIVISION

Form 81-734-1022 (Rev. 9-72)

DISBURSEMENT VOUCHER

	VOUCHER DATE	TOTAL AMOUNT
Eugene Sand & Gravel, Inc. P.O. Box 1067 Eugene, OR 97401	10/21/75	$ 697.55
Contract # 8255 Estimate #3F	Principal	$ 691.10
	Interest	6.45

WARRANT NUMBER

39771

cb

FOR PAYMENT OF ACCOUNTS INCURRED BY THE STATE HIGHWAY DIVISION BY AUTHORITY OF ORS 366.438

CHECKED - Acctg. Control

Contract # 8255 Estimate

Form 81-734-1065

Invoice for Service Rendered or Goods Furnished the
OREGON STATE HIGHWAY DIVISION
by

Eugene Sand & Gravel, Inc.
PO Box 1067
Eugene, OR 97401

Date October 20, 1975

Invoice No.

P.O. No. Contract 8255

Principal $691.10

Interest from 9-26-75 to 10-23-75 inclusive

28 days at $.2304/day = $6.45

STATE HIGHWAY DIVISION

CONTRACT PAYMENT VOUCHER

COUNTY: LANE

CONTRACT NO.: 8255

ESTIMATE NO.: 3

PREFIX NO'S.

HIGHWAY: CITY STREET

FEDERAL AID PROJECT NO.:

SECTION: VENETA (SECOND ST)

61-736-1020

NO.	ITEMS	UNITS	UNIT PRICE	QUANTITY TO DATE	AMOUNT TO DATE	PREVIOUS AMOUNT	PRESE
001	9N GENERAL EXCAVATION	LUMP SUM	2400.0000	100.000	2400.00	2400.00	
002	9N TREATED BASE, 6 INCHES THICK	SQ YDS	4.6200	1,246.000	5756.52	5705.70	
003	9N CLASS C ASPHALT CONCRETE, 2 INCHES THICK	SQ YDS	1.8500	1,286.100	2379.29	2294.00	
004	9N CONCRETE INLETS, TYPE G-2	ONLY	600.0000	1.000	600.00	600.00	
005	9N ADJUSTING MANHOLES	ONLY	100.0000	1.000	100.00	100.00	

GROSS RETAINAGE			
TREASURER DEPOSIT			
* NET RETAINAGE	TOTAL CONTRACT ITEMS	11235.81	11099.70
	- % RETAINED ON CONTRACT ITEMS	-	554.99
	FORCE ACCOUNT		
		11,235.81	10,544.71

DATE: 10.02.75 PO. 01 8255

PREVIOUS VOUCHER NO.: 14403

CHECKED BY: JP:dk

ENGINEER OR AUDITOR

HWAY DIVISION

ENT VOUCHER

COUNTY	CONTRACT NO.	ESTIMATE NO.	PREFIX NO'S.
LANE	8255	3	
HIGHWAY	**FEDERAL AID PROJECT NO.**		
CITY STREET			
SECTION			
VENETA (SECOND ST)			

ITEMS	UNITS	UNIT PRICE	QUANTITY TO DATE	AMOUNT TO DATE	PREVIOUS AMOUNT	PRESENT AMOUNT
XCAVATION	LUMP SUM	2400.0000	100.000	2400.00	2400.00	
ASE, 6 INCHES THICK	SQ YDS	4.6200	1,246.000	5756.52	5705.70	50.82
SPHALT CONCRETE, 2 INCHES THICK	SQ YDS	1.8500	1,286.100	2379.29	2294.00	85.29
INLETS, TYPE G-2	ONLY	600.0000	1.000	600.00	600.00	
MANHOLES	ONLY	100.0000	1.000	100.00	100.00	

DESCRIPTION OF JOB OR DEPARTMENT	PREFIX	FUNCTION	OP	CURRENT MONTH	FISCAL YEAR TO DATE	GRAND TOTAL TO DATE
RAILROAD TUNNEL 7TH STH 5TH SEC	22H	1726	201	00 P	22,268 41	22,268 41
	22H	1726	20H	00	1,07H 04CR	1,07H 04C
	22H	1726	900	00	1,73H 75	1,78H 5
** JOB TOTALS **				8 68 **	22,979 12 **	22,979 12
DEPOT TO 2ND PARTON STS	22H	1727	201	00	100 26	100 26
	22H	1727	201	00 P	22,877 00	22,877 00
	22H	1727	206	00	5 61	5 61
	22H	1727	900	00	719 40	719 40
** JOB TOTALS **				**	24,702 32 **	24,702 32
MILLION DR BP (HEPPNER)	225	1707	900	00	25,000 00	25,000 00
** JOB TOTALS **				25,000 00 **	25,000 00 **	25,000 00
CARVETTE 7TH ST	226	1726	201	00	12,925 75	12,925 75
	226	1726	201	00 P	8,7HH 00	8,7HH 00
	226	1726	20H	00	H27 20	
	226	1726	206	00 P	5 H2	5 H2
	226	1726	900	00		5 H2
** JOB TOTALS **				**	**	**
2ND ST-7TH ST HARRISBURG	322	1725	900	00	25,000 00	25,000 00
** JOB TOTALS **				**	25,000 00 **	25,000 00
LYONS (14TH AND 15TH STS)	322	172H	201	00	11,127 98	11,127 98
	322	172H	206	00	2 63	2 63
	322	172H	900	00	966 45	966 45
** JOB TOTALS **				**	12,107 06 **	12,107 06
2ND ST-7TH ST HARRISBURG	322	1725	900	00	25,000 00	25,000 00
** JOB TOTALS **				**	25,000 00 **	25,000 00
(2ND STREET)	320	1726	201	00	11,235 81	11,235 81
	320	1726	206	00	6 45	6 45
	320	1726	900	00	1,199 23	1,199 23
** JOB TOTALS **				**	12,441 49 **	12,441 49

Verified

06	1	75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
06	1	75	99289	320 1472	905	160	1	3 21	00749
06	1	75	99039	320 1472	905	167	1	24	00600
06	1	75	99189	320 1472	905	167	1	17 01	00701
06	1	75	99201	320 1472	905	167	1	2 04	00701
06	1	75	98730	320 1472	905	167	1	4 02	
06	1	75	99290	320 1472	910	156	1	169 00	
06	1	75	99197	320 1472	910	156	1	12 17	
06	1	75	98828	320 1472	910	171	1	5 13	
06	1	75	99289	320 1472	920	160	1	7 50	00600
06	1	75	99035	320 1472	920	160	1	34	00600
06	1	75	99184	320 1472	920	175	1	6 75	00600
06	1	75	99288	320 1472	920	175	1	76	00600
06	1	75	98952	320 1472	920	175	1	44	00600
06	1	75	99289	320 1472	921	160	1	25 10	00600
						160	1	1 12	00600

JUNE 30 1975

RECORD OF JOB DISBURSEMENT FOR 06/75

MONTH	YEAR	VOUCHER NO	PREFIX	FUNCTION	BRIDGE	OBJECT	P/N	FUND	TOTALS	
06	1 75	99043	320 1472	921		167		1	81 52	00705
06	1 75	99191	320 1472	921		167		1	2 45	00705
06	1 75	99196	320 1472	921		167		1	9 78	00705
									1,755 59 *	
05			321 1453							
06	1 75	99282	321 1453	901		1		1	178 48	
									13	08041
									178.61 *	
05			321 1454							
06	1 75	99282	321 1454						11,897 13	
06	1 75	99282	321 1454	901		1		1	16 40	08041
06	1 75	99282	321 1454	901		1		1	3 10	01307
06	1 75	99289	321 1454	901		11		1	31	08041
06	1 75	99286	321 1454	901		160		1	13	00600
06	75	99248	321 1454	901		192		1	0600	08041

8255

October 14, 1975

The Travelers Indemnity Co.
Surety Department
707 S.W. Washington St.
Portland, OR 97205

Gentlemen:

On October 6, 1975, we wrote to you concerning release of final payment on Contract No. 8255 awarded to Eugene Sand & Gravel, Inc., for work on Second Street in Veneta in Lane County.

Final payment on this contract is $691.10 and the total contract amount is $11,235.81. No work was performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

ser

cc Eugene Sand & Gravel, Inc.
3000 North Delta Highway
P. O. Box 1067
Eugene, OR 97401

bc C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
A. Shirley

8255

Date December 10, 1975

OREGON STATE HIGHWAY DEPARTMENT

ITEMIZED STATEMENT OF COSTS
SPECIAL CITY ALLOTMENT PROJECT

Program Year 1975

Contract # 8255 Prefix 320-1726 Survey Prefix 320-1472

Street Second Street

City Veneta

Payments to Contractor (see attached voucher)	$11,242.26*
Engineering and Contingencies	1,199.23
Survey: Total $1,755.59 Prorated Share	----
TOTAL	$12,441.49
Agreed State Share	$12,441.49
Agreed City Share	---
City Advance Deposit	---

Reference: Outside Billing none

*Includes $6.45 interest

RU

8255

FORM 81-734-3001

OREGON STATE HIGHWAY DIVISION

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE SECTION

REPORT NO. 5

SECTION: VENETA (SECOND ST.)		WEEK ENDING: SEPTEMBER 6, 1975
		SECTION PREFIX: 320-1726
HIGHWAY: CITY STREET		COUNTY: LANE
NAME OF JOB: VENETA (SECOND ST.)	KIND OF WORK: GRADING & PAVING	
CONTRACTOR: EUGENE SAND & GRAVEL, INC.	CONTRACT NUMBER: 8255	FEDERAL AID PROJECT NUMBER: STATE
DATE OF CONTRACT: JULY 1, 1975	DATE WORK STARTED: AUGUST 5, 1975	ESTIMATED COMPLETION DATE: COMPLETED
AVERAGE FORCE ON PROJECT FOR THE WEEK: 0 MEN: 0 SUPERVISION: 0	SPECIFIED WORK DAYS: 60 CWD	WORK DAYS USED: 20.0 CWD
	SPECIFIED CALENDAR DAYS	CALENDAR DAYS USED
PROJECT AUTHORIZATION: $ 12883.77	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED: 33.3%
EXCLUSIVE OF ENGINEERING: $ 11758.55	ENGINEERING AUTHORIZATION $ 1125.22	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100.0%
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING $ 11099.70	ENGINEERING COST TO DATE $ 665.91 THIS WEEK 0.0	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 94.4%
ESTIMATED PERCENT: [redacted] UNDERRUN 5.6 %	PERCENT OF AUTHORIZATION 59.2 %	DATE PROJECT WAS COMPLETED: AUGUST 20, 1975

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		
		100.%	100.%	100.%			

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT		0.05			0.05
MILES PARTIALLY COMPLETED		0.00			0.00
MILES COMPLETED		0.05			0.05
TOTAL ESTIMATED QUANTITIES (CONTRACT)		1260. SY			1260. SY
TOTAL QUANTITIES CORRECTED TO DATE		1235. SY			1240. SY
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE		1235. SY			1240. SY
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY				
MONDAY	CLEAR			
TUESDAY	OVERCAST			
WEDNESDAY	CLEAR			
THURSDAY	CLEAR			
FRIDAY	CLEAR			
SATURDAY				

Routing
Keasey
Bond
Jackmond
Harwood
Johnsen
Walker
Richards
Glenn
Berg

RECEIVED
SEP 8 1975
CONSTRUCTION SECTION

BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK	
SUNDAY	Venota-Second St. - for week of August 31 through September 6, 1975.
MONDAY	No activity this week.
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

REMARKS

This Week: No activity.
Next Week: No activity planned.

PROJECT COMPLETED. Semi-final to be submitted approximately September 12, 1975.

Completion date: August 20, 1975.

SIGNED Ellen R. Shaw LOCATION _____

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES

SP-F218

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

TO Oregon ~~State Highway~~ Transportation Commission

DATE June 18, 1975

FROM F. B. Klaboe
State Highway Engineer

SUBJECT Footpaths and Bicycle Trails
June 5, 12, 19 and 26 Bid Lettings

Bids were taken June 5, 12, 19 and 26 on the following projects. This is an informational report to document the Highway Division's action taken with regard to establishing footpaths and bicycle trails on those projects as set forth in Oregon Laws 1971, Chapter 366.

June 5 Bid Letting:

1. Pacific Highway East U'Xing-N. Columbia Boulevard
Pacific Highway, Multnomah County

Grade, Pave, Sign and Illumination Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout the section.

2. Rowena-The Dalles
Columbia River Highway, Wasco County

Grade, Pave, Sign and Illumination Project

Same as No. 1.

3. Hilgard-LaGrande
Old Oregon Trail Highway, Union County

Grade, Pave and Sign Project

Same as No. 1.

4. McVay Highway at Pacific Highway O'Xing
McVay Highway, Lane County

Signal Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

5. Oregon Coast Highway at W. Devils Lake Road
Oregon Coast Highway, Lincoln County

Grade and Pave Project

Bicycle trails will not be included as the project consists of minor grading and surfacing to obtain a left-turn refuge. Four-foot shoulders will be provided throughout the project.

6. N. W. Elks Drive-N. W. Conifer Boulevard (Corvallis)
Pacific Highway West, Benton County

Grade and Pave Project

Same as No. 1, except that 6-foot shoulders will be provided.

7. Poormans Creek Bridge
Jacksonville Highway, Jackson County

Grade, Pave and Structure Project

Same as No. 1, except that 4-foot shoulders will be provided.

June 12 Bid Letting:

1. W. Marquam Interchange-N. Tigard Interchange
Pacific Highway, Multnomah County

Grade, Pave, Sign and Illumination Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout the project.

2. S. W. Clay Street-S. W. Sheridan Street
Pacific Highway West, Multnomah County

Roadside Improvement Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

3. Link River-Bisbee Street
Klamath Falls-Lakeview Highway, Klamath County

Paving Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Five-foot sidewalks exist.

4. Smith Point (Astoria)
Oregon Coast Highway, Clatsop County

Roadside Improvement Project

Same as No. 2.

5. Interstate Avenue Grade Separation
Pacific Highway West, Multnomah County

Guardrail Project

Same as No. 2.

June 19 Bid Letting:

1. Bellevue Street S. E.-Mission Street S. E. (Salem)
FAUS 1555, Marion County

Grade, Pave, Structure and Illumination Project

An 8-foot Class II bikeway will be provided.

2. Chehalem Creek (Newberg)
Pacific Highway West, Yamhill County

Grade, Pave and Structure Project

Five-foot sidewalks will be provided.

3. Sharps Corner-Diagonal Road
Columbia River Highway, Umatilla County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Four-foot shoulders will be provided.

4. Jordan Valley-Jordan Creek
I.O.N. Highway, Malheur County

Grade and Pave Project

Same as No. 3.

5. Hogback Summit-Lake Abert
Lakeview-Burns Highway, Lake County

Grade and Pave Project

Same as No. 3.

6. S. Fork Big Butte Creek (Butte Falls) Bridge
FAS 15-101, Jackson County

Structure Project

Same as No. 3.

7. Middle Fork Malheur River (Acton Bridge)
FAS 459, Harney County

Grade, Base and Structure Project

Same as No. 3, except that 2-foot shoulders will be provided.

8. McMinnville-Willamina-Sheridan Area Safety Projects
Pacific Highway West and Salmon River Highway
Polk and Yamhill Counties

Attenuators, Guardrail and Sign Projects

Footpaths or bicycle trails are not incorporated

in this project as no new highway construction, reconstruction or relocation is involved.

9. Simpson Creek
Corvallis-Newport Highway, Lincoln County

Grade, Pave and Culvert Project

Same as No. 3.

10. Daisy Street-SPRR (Springfield)
Springfield-Creswell Highway, Lane County

Grade and Pave Project

An 8-foot, Class I or Class II bikeway will be provided.

11. Aumsville (N. Fifth Street)
City Street, Marion County

Grade and Pave Project

Four-foot sidewalks will be provided.

June 26 Bid Letting:

1. Winchester Interchange-Garden Valley Boulevard
Pacific Highway, Douglas County

Grade, Pave and Sign Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout this section.

2. Motorist Service Signing Project, S. Unit
Pacific Highway, 3 Counties

Signing Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

3. Motorist Service Signing Project, N. Unit
Pacific Highway, 6 Counties

Signing Project

Same as No. 2.

4. Motorist Service Signing Project
Columbia River Highway, 9 Counties

Signing Project

Same as No. 2.

5. N. E. Union Avenue-N. E. 82nd Avenue
Columbia River Highway, Multnomah County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout this section.

6. S. W. 72nd Avenue Interchange-S. W. Boones Ferry Road
Beaverton-Tigard, Pacific and FAS 943 Highways
Washington and Clackamas Counties

Grade and Pave Project

An 8-foot Class I bikeway will be provided.

7. Five Corners-Lakeview and Hunters Lodge Road-Lakeview
Klamath Falls-Lakeview and Fremont Highways, Lake County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders or 5-foot sidewalks in curbed areas are available.

8. Lyons (14th and 15th Streets)
City Street, Linn County

Paving Project

Same as No. 1, except that two 12-foot paved travel lanes and 6-foot gravel shoulders will be provided.

9. Veneta (Second Street)
City Street, Lane County

Grade and Pave Project

Same as No. 1, except that 8-foot shoulders will be provided.

10. Detroit (D and Patton Streets)
City Streets, Marion County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders will be provided.

11. Rooster Rock State Park
Multnomah County

Beach Restoration and Erosion Control Project

Same as No. 2.

bc C. W. Head
G. M. Baldwin
A. E. Johnson
E. S. Hunter
R. L. Schroeder
D. G. Talbot
L. E. George
Victor D. Wolfe
Gary Sund
Jack Graham

WHW:mc ja

OREGON STATE HIGHWAY DIVISION

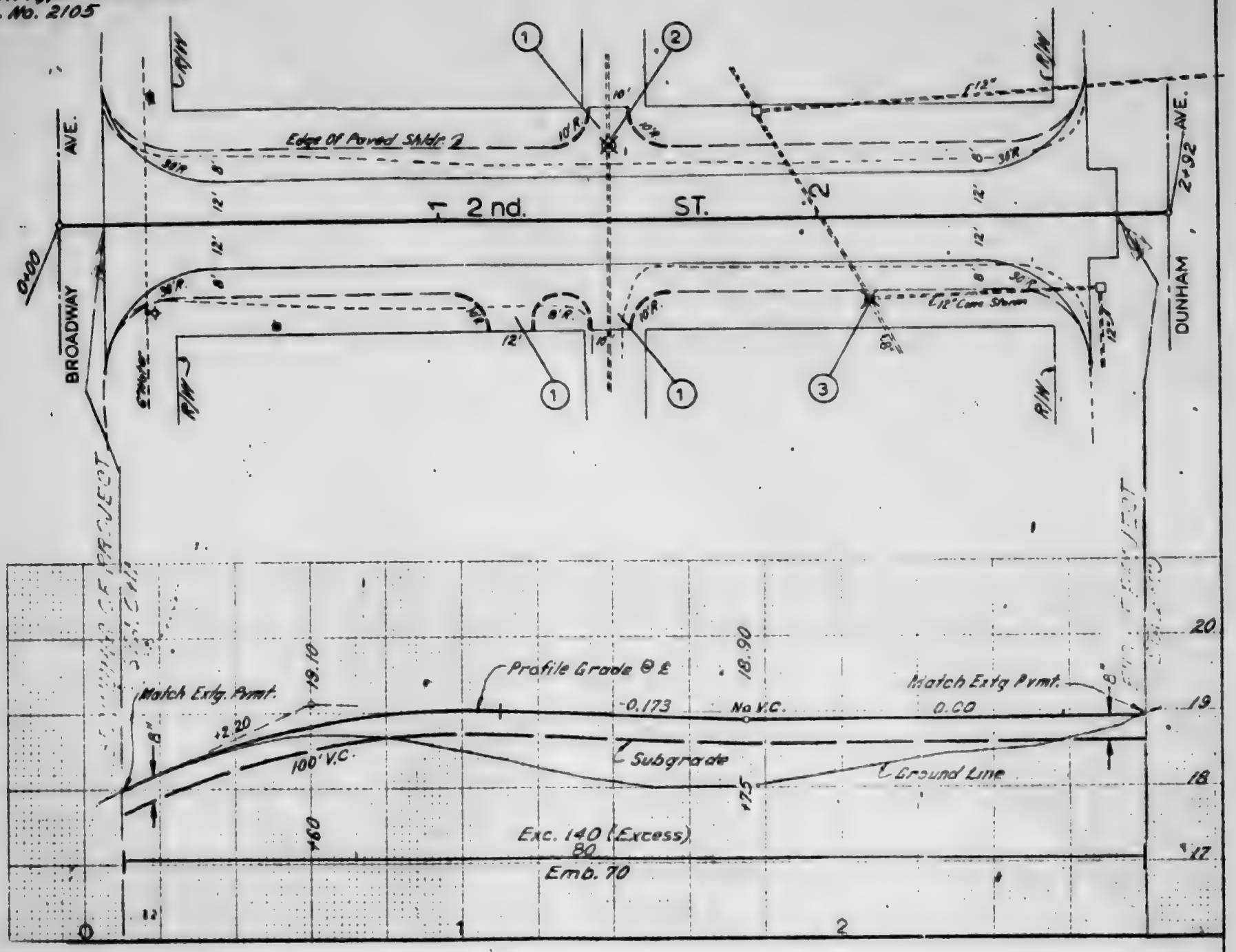
VENETA (SECOND ST.) SECTION CITY STREET LANE COUNTY				SHEET NO. 1
FED ROAD DIV NO.	STATE	PROJECT NUMBER	DATE	TOTAL SHEETS
10	OREGON	STATE		1

Sec. 36, T. 17 S., R. 6 W., W.M.
VENETA

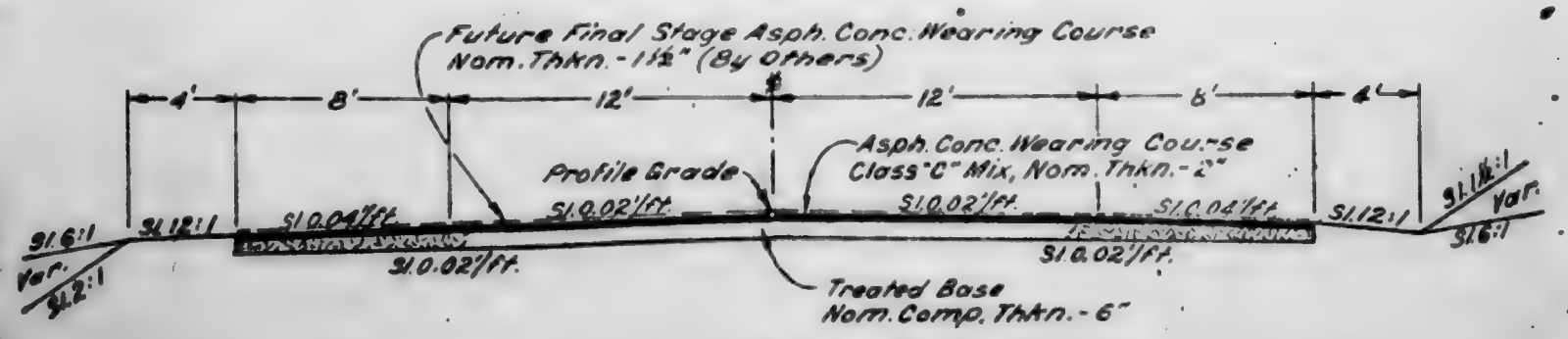
(1) Const. Approaches - 3 (Total)

(2) Adjust Manhole

(3) Remove Extg. Inlet
Const. Type "C-2" Inlet
Drg. No. 2105



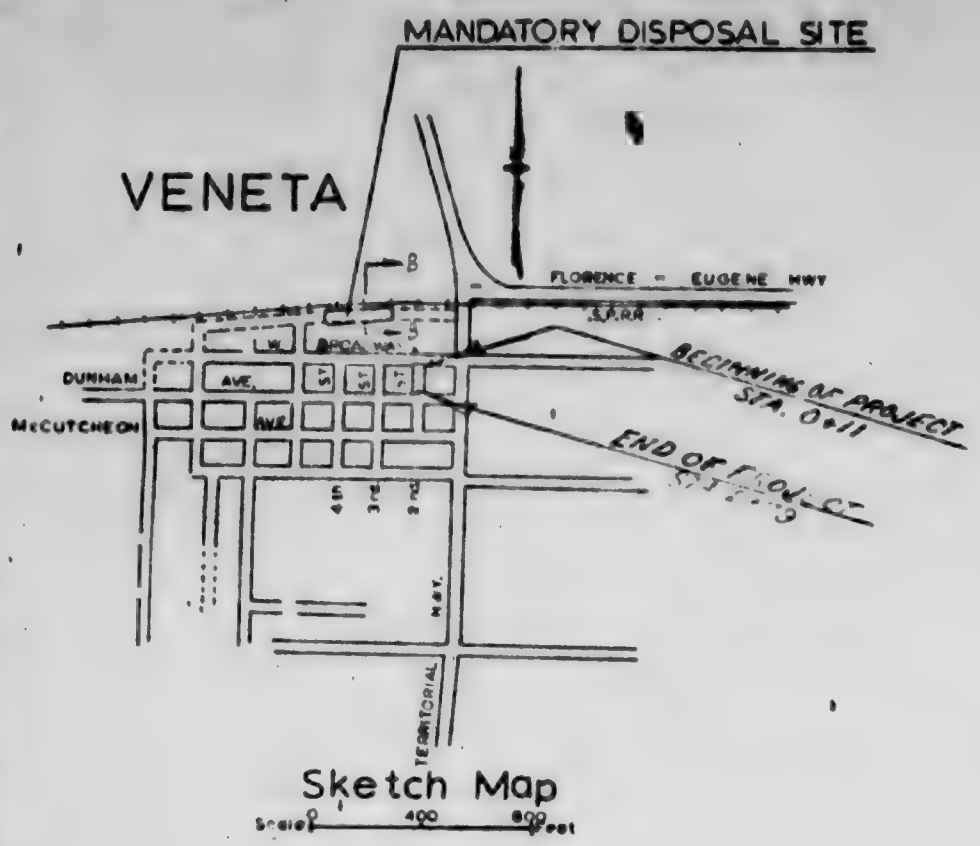
TYPICAL SECTION

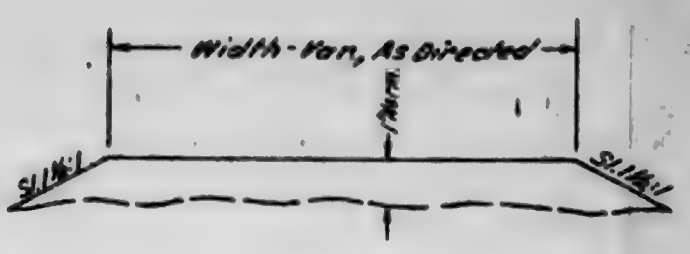


STA. 0+11 To STA. 2+79

Watson-Pfeil-Stutzman

5-20-75





1 Con

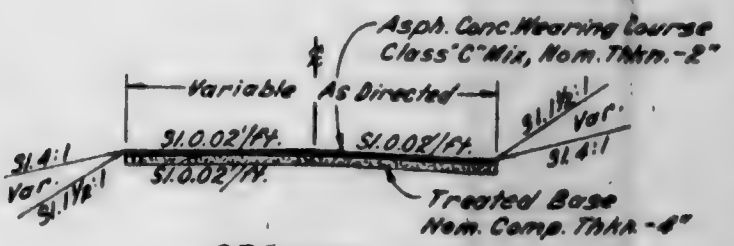
2 Adj

3 Re Coo Dr

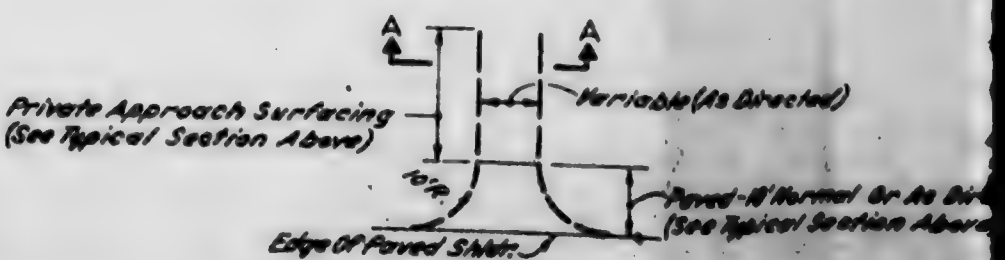
App - Richard Gutman
Mayor City of Veneta

PRELIMINARY COPY
SUBJECT TO CHANGE

PRELIMINARY COPY
APR 24 1975
SUBJECT TO CHANGE
FINAL DESIGN UNIT



RECEIVED
COUNTY & CITY SECTION
MAY 21 1975
☐ ENGR. ☐ COOR. ☐ CE ☐ AE ☐ UE
☐ UPE ☐ CE ☐ RE ☐ RPE ☐



SCA

Robert W. Straub

May 15, 1975

Mrs. Doris T. Duffield
City Recorder
City of Veneta
City Hall
Veneta, Oregon 97487

Dear Mrs. Duffield:

Enclosed are two sets of preliminary plans for the 1975 Special City Allotment project on Second Street. Please have the proper officials review and, if they approve, return one set with your approval noted thereon.

Construction of a 40-foot wide street, as shown on these preliminary plans, is currently estimated to cost $18,000. This amount would be covered by the State's SCA fund.

Recommended changes you suggest should reach this office by June 1, 1975 to permit any revisions to be made on the plans before they reach the bidders.

Very truly yours,

Richard Unrein
Urban Engineer
County-City Unit

FFH:scr

Enclosure

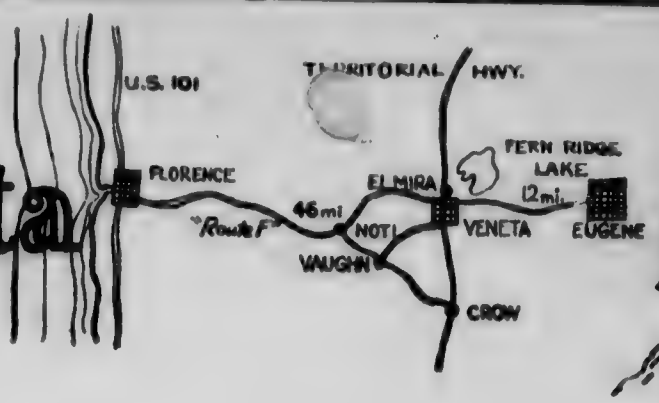
☑ ENGR. ☐ ASST. ☑ OE ☐ AE ■ LE
☑ UPE ☐ CE ☐ RE ☐ RPE ☐

SCA-75
Veneta

City of Veneta

INCORPORATED 1962

Veneta, Oregon 97487



April 28, 1975

D.N. Harwell
City & County Engineer
Attn. Fred Hildebrandt
203 State Highway Bldg.
Salem, OR 97310

Dear Mr. Harwell

In response to a recent phone conversation, the city has no objections to the closure of 2nd Street between Dunham and West Broadway while the street is under construction.

Sincerely,

Richard Gutman

Richard Gutman
Mayor

RG/mlc

Don

RECEIVED
COUNTY & CITY SECTION
APR 29 1975
☑ ENGR. ☐ COOR. ☑ DE ☐ AE ■ UE
☐ UPE ☑ CE ☐ RE ☐ RPE ☐

4-30-75
Copy to Design
Hildebrandt

cc: Region office

ASST. ☑ DE ☐ AE ■ UE
☑ UPE ☑ CE ☐ RE ☐ RPE ☐

SC 9
Veneta

SALEM

APRIL 11, 1975

Mr. Victor D. Wolfe - Attention Mr. P. C. Carstensen
Location Engineer
BUILDING

for GEZ
Richard Unrein
Urban Engineer
County-City Unit

1975 SPECIAL CITY ALLOTMENT PROJECT
Broadway-Dunham Avenue Section
Second Street
City of Veneta

The survey data for the subject project has been reviewed and found to be consistent with the project as requested by the City and approved by the Transportation Commission.

GEZ:mm

Att.

☑ ENGR. ☐ ASST. ☑ DE ☐ AE ■ UE
☑ UPE ☑ CE ☐ RE ☐ RPE ☐

Veneta, 2nd Street
City Street
Lane County
Prefix: 320-1472

LOCATING ENGINEER'S NARRATIVE REPORT

This project is a city street, 0.06 miles in length on 2nd Street between Broadway and Durham Avenues.

The alignment is down the center of 2nd Street.

The proposed 40 foot roadway is comprised of two 12 foot lanes and two 8 foot shoulders.

The City of Veneta will adjust their own facilities and utilities, and have indicated that the other utilities are on the R/W by permit.

The City of Veneta has indicated they do not have the facilities to provide Temporary Protection and Direction of Traffic for the project and an item for this will be required.

RECEIVED
COUNTY & CITY SECTION
APR 11 1975
☐ ENGR. ☐ COOR. ☐ CE ☐ RE ☐ UE
☐ UPE ☐ CE ☐ RE ☐ [illegible]

Veneta, 2nd Street
City Street
Prefix: 320-1472

DESCRIPTION OF WORK TO BE DONE

1. There is no clearing and grubbing as such.

2. Construct a 40 foot roadbed; 2 twelve foot travel lanes 2 eight foot parking shoulders full length of project.

3. General excavation, unclassified of approximately 185 Cu. Yds. to be disposed of on the City of Veneta property about 600 feet to the north west of the project. To be included in the price are watering, removal and disposal of approximately 100 Sq. Yds. of asphalt concrete pavement and finishing of the road bed and slopes.

4. Construct treated base, 6 inches thick full width.

5. Place 3 inches of Class "C" asphaltic concrete pavement (2 lifts of 1½" nom.)

6. Additional compensation will be required for the construction of three road approaches.

7. Adjust the elevation of the sanitary sewer manhole.

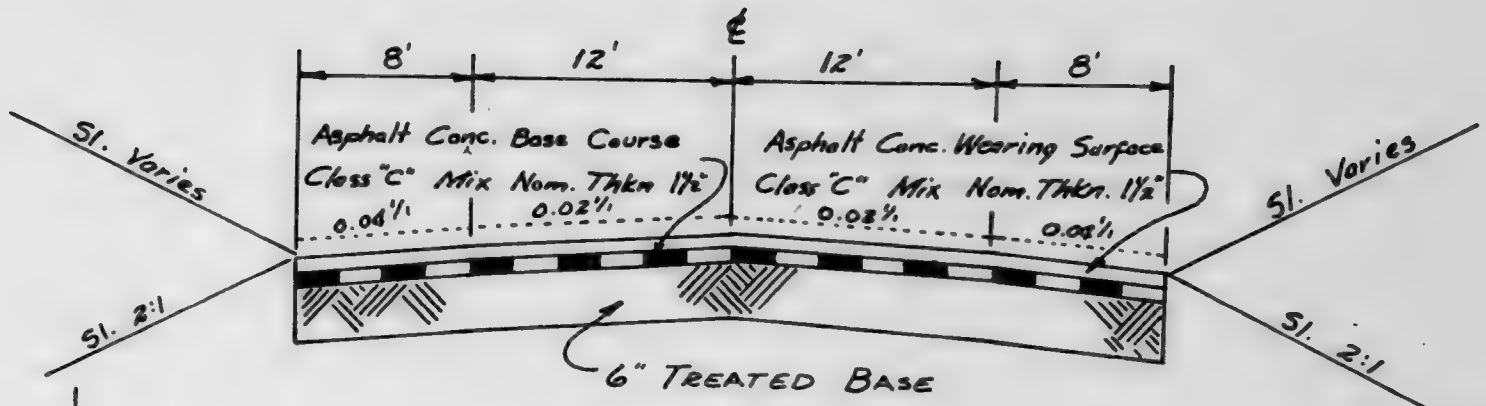
8. Adjust the elevation of concrete inlet and provide a new frame and grate.

Veneta, 2nd Street
City Street
Prefix: 320-1472

COST SUMMARY

No.	Item	Unit	Qty	Unit Price	Amount
1.	Temporaty Protection and Direction of Traffic	Lump Sum	All	All	$ 200.00
2.	General Excavation	Lump Sum	All (171)	All (6.50)	$1111.50
3.	Treated Base, 6 inches thick	Sq.Yd.	1338	5.25	$7024.50
4.	Class "C" Asphalt, 3 inches thick	Sq.Yd.	1370	3.27	$4479.90
5.	Extra for Asphalt Road Approaches	Ea.	4	150.00	$ 600.00
6.	Adjustment of Incidental Structures	Ea.	2	300.00	$ 600.00

Grading, Surfacing and Paving:	$14,015.90
Additional Anticipated Items:	-0-
Sub-Total:	$14,015.90
20% Engineering and Contingencies:	2,803.18
Total.....	$16,819.08


℄
8'
12'
12'
8'
Sl. Varies
Asphalt Conc. Base Course
Class "C" Mix Nom. Thkn 1½"
0.04½
0.02½
Asphalt Conc. Wearing Surface
Class "C" Mix Nom. Thkn. 1½"
0.02½
0.02½
Sl. Varies
Sl. 2:1
Sl. 2:1
6" TREATED BASE
R/W
R/W

FOR USE AT 2 1/2 FLOOR IBM COPIER - PLEASE LE

DUNHAM AVE.

2ND STREET

12" Conc. Storm

20' R.

12" Conc. Storm

8" Conc. Storm

R/W Line

Adjust Elev. Inlet & provide steel frame and grate

8' R.

10'

Chain Link Fence

3'x3' Propane Tank

15" Conc. Storm

8" Cons. Sanitary

8'R

20' R.

12" Conc. Storm

60'

EASE LE E HE

1 Story Wood Frame Bldg.

M CODIFR - D

E LEAVE HERE

Chain Link Fence

3'x8' Propane Tank

Sidewalk

6" ACP Water

10'

12'

8'R.

8'R.

8'R.

8'R.

20'R.

20'R.

P.P. PPL# 369604

P.P. PPL# 369641

provide grate

Broadway Ave.

8" Conc. Sew'Ary

1+00

0+00

60'

Adjust Elev. Manhole

R/W Line

10'

8:35

R

February 26, 1975

City of Venets
City Hall
Venets, OR 97487

Attention: Mrs. Doris T. Duffield
City Recorder

MISC. CONTRACTS and
AGREEMENTS No. 5934

Gentlemen:

Attached for your records is a fully executed copy of an agreement covering improvement of Second Street from Broadway to Durham Avenues.

We have retained a fully executed copy of this agreement for the Transportation Commission's files.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

Att.

cc Don Harwell (agree. att.)

December 18, 1974

Mrs. Doris T. Duffield
City Recorder
City Hall
Veneta, Oregon 97487

RE: **Second Street**
1975 Special City Allotment Project

Dear Mrs. Duffield:

On December 18, the Oregon Transportation Commission approved the City's request for a 1975 Special City Allotment project to be constructed from funds authorized by ORS 366.805.

The project was approved on the basis of the attached project description and city map, showing the limits of the approved project. Also attached are regulations and procedures pertaining to these projects.

You will be contacted in the near future concerning construction details.

Very truly yours,

H. S. COX
County-City Engineer

By James O. Butler
James O. Butler
Cities Engineer
County-City Unit

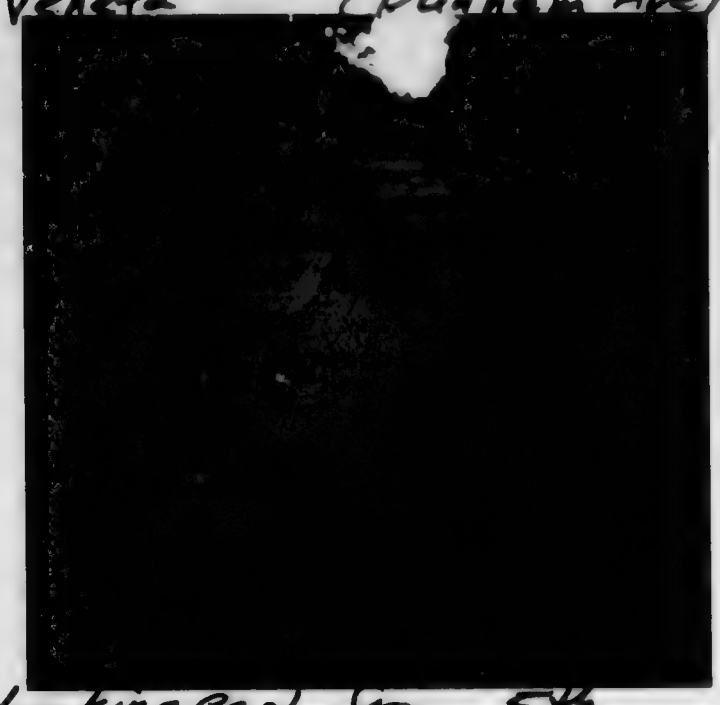
JOB:scr

Attachment

cc: Alfred Shirley, Jr., Region III

☐ ENGR. ☐ ASST. ☐ OE ☐ AE ■ UE
☐ UPE ☐ CE ☐ RE ☐ RPE ☐

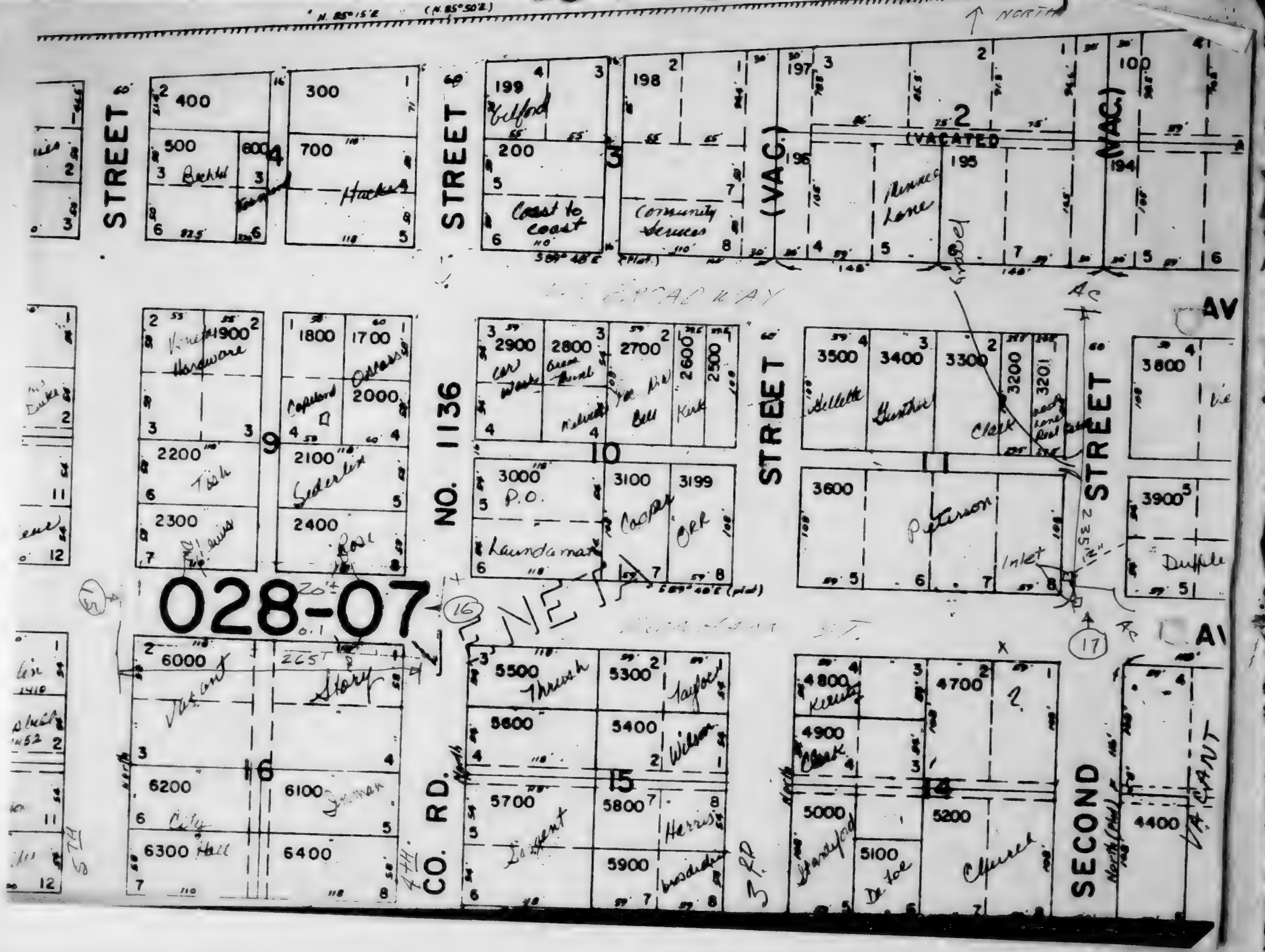
Veneta (Punham Ave)



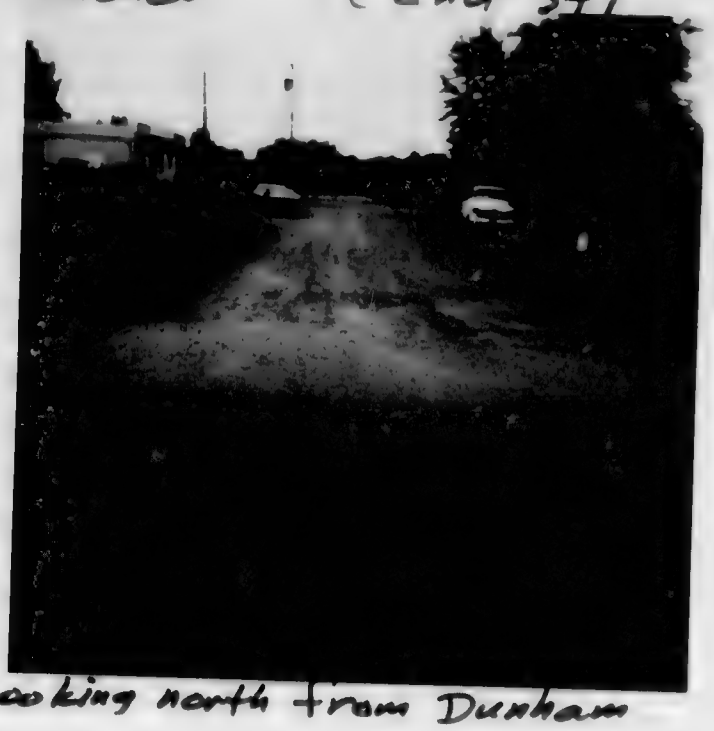
Looking East from 5th

Veneta (Punham Ave)

Looking west from 4th


N. 85° 15' E (N. 85° 50' E.)
NORTH
STREET
(VAC.)
(VACATED)
(MAC.)
BROADWAY
AV
AVENUE
NO. 1136
CO. RD.
SECOND
028-07
Vulcan Hardware
Cafferata
Copeland
Federlet
Tibbetts
Dillman
Road
Story
Jackson
City Hall
Lyman
Laundromat
P.O.
Cooper
Oak
Coast to Coast
Community Services
Hackett
Buchtel
Belford
Bell
Kirk
Clark
Gunther
Peterson
Inlet
Duffle
Thrush
Taylor
Wilson
Herrick
Broadus
Stanford
Church
Dr Toe
Kreutz
Inlet Road
Alameda Lane
Grade
Ac
Via
Duke
Lee
Dillman
Road
Story
Jackson
City Hall
Lyman
Laundromat
P.O.
Cooper
Oak
Coast to Coast
Community Services
Hackett
Buchtel
Belford
Bell
Kirk
Clark
Gunther
Peterson
Inlet
Duffle
Thrush
Taylor
Wilson
Herrick
Broadus
Stanford
Church
Dr Toe
Kreutz
Inlet Road
Alameda Lane
Grade
Ac
Via

Veneta (2nd St)



looking north from Dunham

Veneta (2nd St)

Looking South from Broadway

S.C.A. Investigation Data

City of Veneta Date _____ Div. 3 No. previous projects 3
Population: 1969 1,240 1974 1,730 Last project 1972 (year)
Street 2nd st. Total SCA funds $ 61,643.14
Funds/capita $ 35.63
Average/capita $ _____

EXISTING

Surface now in place: A.C. ___ Oil ___ Gravel X Concrete _____
Surface width: 24 feet, Shoulder-shoulder width: _____ feet
C-C width: _____ feet, R/W width: _____ feet
Remarks: _____

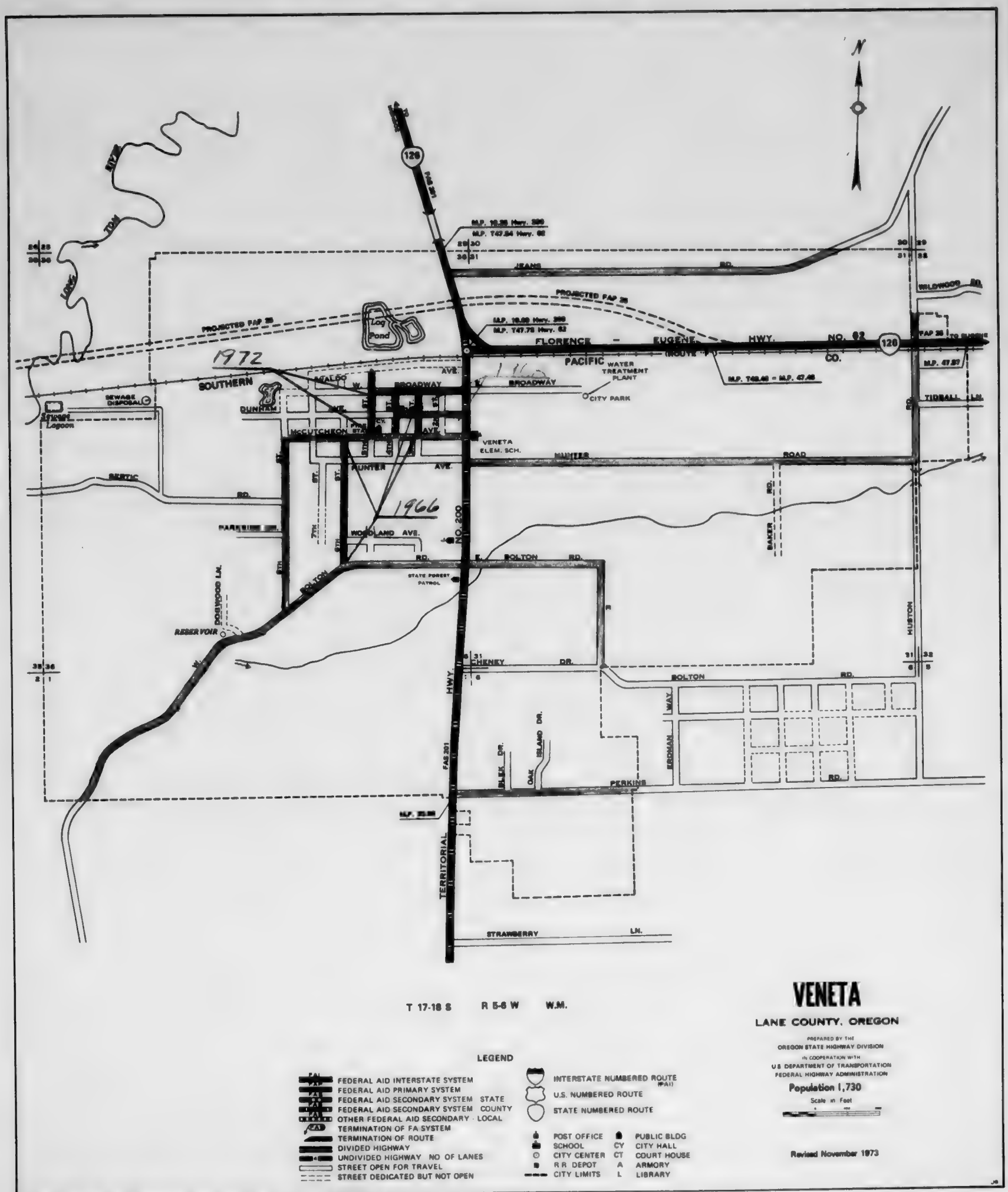
PROPOSED

Surfacing: A.C. X Oil _____ Other _____
Pave. width: ___ feet, Shoulder width ___ feet, C-C width: 40 feet
BASE DESIGN: A.C. 3 inches, Leveling — inches, Base 12 inches
Lime T.S.G. ___ inches, Blanket ___ inches, P.M.B.B. ___ inches
Length: 0.04 mile, 235 feet. Type curb: C
Remarks: _____

ESTIMATE Item	Unit	Gross*	Price	Amount
Temp. protection & direction of traff. ($500-$1,000)	all	all	$ L.S.	$
Clearing & grubbing	all	all	L.S.	
General excavation	c.y.			
Finishing roadbed & slopes ($1,500)	mile			
Trench excavation	c.y.			
Watering	M-gal.			
Level material (3/4-0)	c.y.			
Base material	c.y.			
Asphalt	ton			
Binder	all	all	L.S.	
Concrete inlets	each			
Culvert pipe	lin. ft.			
Concrete curbs	c.y.			

*Items include 10% allowance

Total $ _____
Perm. signing ($100/intersection) _____
Flagging _____
Total $ _____
Engineering & contingencies (20%) _____
Total $ _____
City's estimated share of survey _____
TOTAL ESTIMATED COST $ _____



T 17-18 S R 5-6 W W.M.

VENETA

LANE COUNTY, OREGON

PREPARED BY THE
OREGON STATE HIGHWAY DIVISION
IN COOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Population 1,730

Scale in Feet

Revised November 1973

LEGEND

- FEDERAL AID INTERSTATE SYSTEM
- FEDERAL AID PRIMARY SYSTEM
- FEDERAL AID SECONDARY SYSTEM STATE
- FEDERAL AID SECONDARY SYSTEM COUNTY
- OTHER FEDERAL AID SECONDARY · LOCAL
- TERMINATION OF FA SYSTEM
- TERMINATION OF ROUTE
- DIVIDED HIGHWAY
- UNDIVIDED HIGHWAY NO OF LANES
- STREET OPEN FOR TRAVEL
- STREET DEDICATED BUT NOT OPEN
- INTERSTATE NUMBERED ROUTE (PAI)
- U.S. NUMBERED ROUTE
- STATE NUMBERED ROUTE
- POST OFFICE
- SCHOOL
- CITY CENTER
- R.R. DEPOT
- CITY LIMITS
- PUBLIC BLDG
- CY CITY HALL
- CT COURT HOUSE
- A ARMORY
- L LIBRARY

Co Rds in City 6-13-74

CITY: Veneta COUNTY: Lane

SECTION: Second St

ESTIMATE Item	Unit	Gross*	Price	Amount
Temp. protection & direction of traff. ($500-$1,000)	all	all	$ L.S.	$ 500
Clearing & grubbing	all	all	L.S.	
General excavation	c.y.	600	5 00	3,000
Finishing roadbed & slopes ($1,500)	mile	—		
Trench excavation	c.y.	20	10 00	200
Watering	M-gal.	—		
Level material (3/4-0)	c.y.	—		
Base material (1"-0) 12" thk	~~c.y.~~ s.y.	1150	4 50	5,175
Asphalt Class C 3" thk	~~ton~~ s.y.	1150	2.55	2,933
Binder	all	all	L.S.	
Concrete inlets	each	2	350	700
Culvert pipe 12" CMS	lin. ft.	100	750	750
Concrete curbs type C	~~c.y.~~ l.f.	520	2 00	1,560

*Items include 10% allowance

Total	$ 14,818
Perm. signing ($100/intersection)	200
Flagging	
Total	$ 15,018
Engineering & contingencies (20%)	3 004
Total	$ 18,022
City's estimated share of survey	
TOTAL ESTIMATED COST	$ 18,022

SCA

PROJECT DATA, CITY OF Veneta Date June 6, 1974

To be financed by Special City Allotment Fund and necessary city funds.

Street name Dunham Street between 4th and 5th Streets - 1 block
Second Street between West Broadway and Dunham - 1 block
(Locate project on attached map.)

Project length 472 ft.

DESIRED STREET SECTION:

Standard roadway; width of travel way: 24 feet, width of shoulders: 16 feet

Curbed section; width curb to curb: 40 feet

Remarks

Surface now in place: Oil ____ Paving ____ Gravel X

Present surface width: 24 feet

RIGHT-OF-WAY: (City shall, without cost to State, provide all right-of-way required)

Width of present right-of-way: 60 feet

Additional right-of-way required? Yes ____ No X

State to furnish right-of-way descriptions? Yes X No ____

Give width of intersecting streets: 60'

Are intersecting streets curbed? Yes ____ No X

Remarks

CONCRETE CURBS: (All new curbs to be constructed at city's expense.)

Now in place? Yes ____ No X

Width between present curbs: ____ feet No curbs

City to construct curbs? Yes X No ____

To be constructed as part of project? Yes ____ No X

Length of desired radius on curb returns: ____ feet

Does city desire special type of curbs? Yes ____ No ____

Explain:

RECEIVED
COUNTY & CITY SECTION
JUN 10 1974
☐ ENGR. ☑ COOR. ☐ OE ☐ AE ☐ UE
☐ UPE ☑ CE ☐ RE ☐ RPE ☐

SIDEWALKS (All new sidewalks to be constructed at City's expense.)- - - - - -

Are sidewalks now in place? Yes___ No X

Present sidewalks, Length: _____feet; Width:_____feet

Distance between present sidewalks: _____feet

Are sidewalks to be constructed as part of project? Yes___ No X

Width of sidewalks to be constructed: _____feet

Are sidewalks to be constructed only on one side of street? Yes___ No___

Are sidewalks to be constructed on both sides of street? Yes___ No___

Give: Length to be constructed and On which side of street

_____feet N.___ S.___ E.___ W.___

_____feet N.___ S.___ E.___ W.___

Should sidewalks be placed against curbs? Yes___ No___

Is utility strip required? Yes___ No___; Width: _____feet

Remarks_____

STORM SEWERS -

Now in place? Yes___ No___ Some on Second St. (In blue on map)

If yes, are they adequate for increased flow? Yes X No___

Indicate depth of main lines from present surface: 40" ~~feet~~

To be constructed by City? Yes___ No___

To be constructed as part of project? Yes___ No___

(Show location of all on city map.)

SANITARY SEWERS -

Now in place? Yes X No___ (NOTE: City to adjust if required.)

If yes, indicate depth of sewers from present surface: 5 feet

Remarks

SCA

SCA

WATER MAINS: (City to adjust if required.)

Now in place? Yes X No ___

If yes, how deep from present surface? 40" feet

Remarks _____

_____

DRIVEWAYS: ~~(All driveway construction beyond curb line to be at city's expense.)~~

To be constructed as part of project? Yes ___ No ___

Asphaltic concrete? Yes X No ___

Portland cement? Yes ___ No ___

How many? 4

Must driveways be Portland cement to comply with city code? Yes ___ No X

Is there a city ordinance specifying width and number of driveways permitted?
Yes ___ No ___ (If yes, please include copy of ordinance.)

Remarks _____

_____

FRANCHISED UTILITIES: (City is to arrange for any required adjustment.)

Gas lines? Yes ___ No X

Electric poles? Yes X No ___

Which company? Pacific Power & Light Co.
(NOTE: If city-owned, city to adjust.)

Telephone poles? Yes ___ No X

Which company? _____

Railroad tracks? Yes ___ No X

Which railway? _____

Is crossing presently protected by automatic railroad signals?

Yes ___ No ___

Remarks _____

_____

WORK TO BE DONE BY CITY AS PART OF PROJECT

Grading? Yes ___ No X

Clearing? Yes ___ No X

Base rock? Yes ___ No ___ See below

Concrete curbs? Yes ___ No X

Driveways? Yes ___ No X

Remarks If bid is too high, we would use our base rock

GENERAL INFORMATION:

Are city finances available? Yes X No ___

When available? Date 1974-75 budget year

Has city established grade on street? Yes ___ No X
(If yes, please include copy of data.)

Please indicate site for disposal of excess excavated material:

600 feet is longest haul

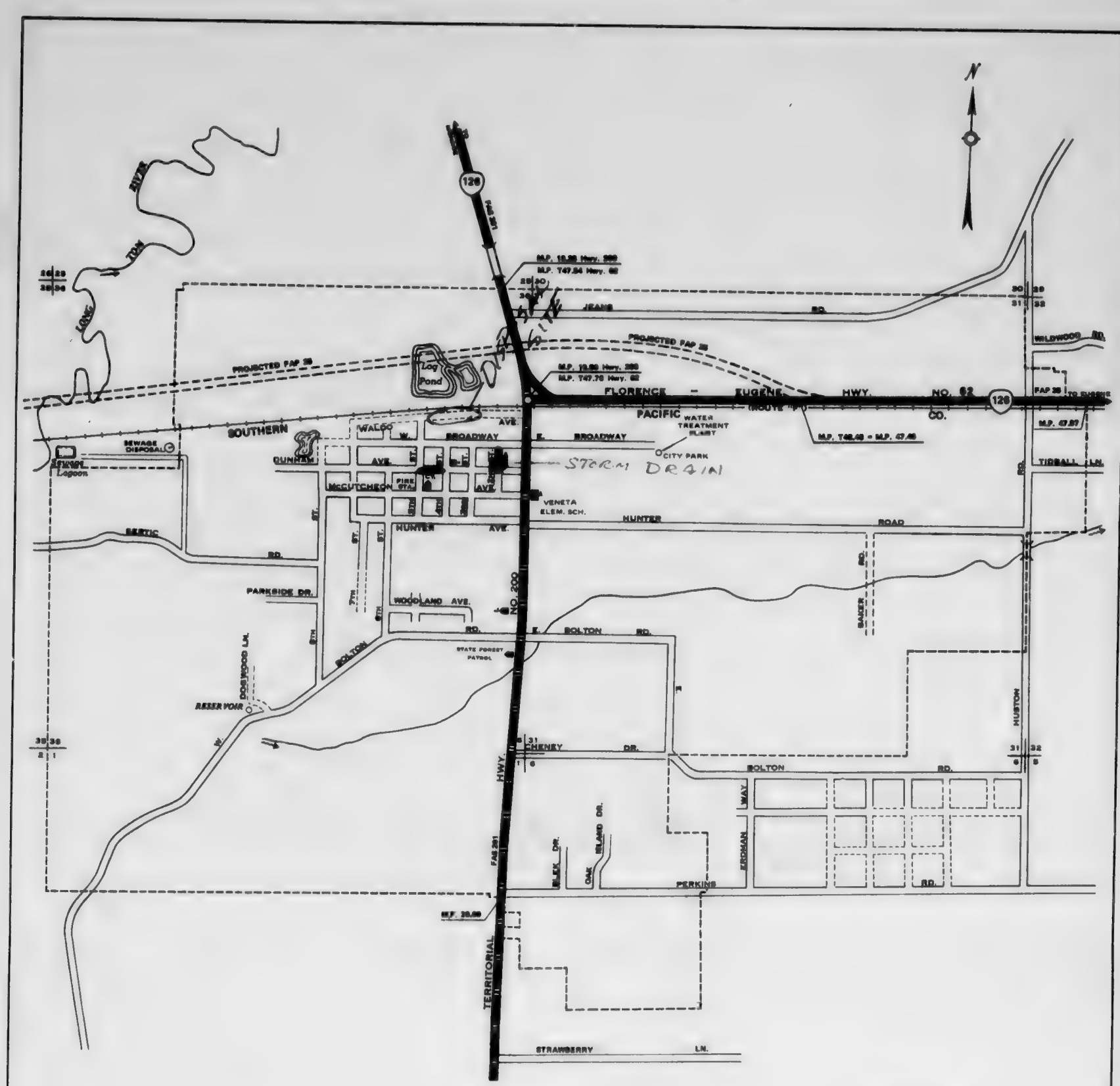
General remarks:

Dated: June 6, 1974

By Richard Gutman
Mayor

By Doris I Duffield
City Recorder or ~~City Manager~~

By _____
City Engineer



T 17-18 S R 5-6 W W.M.

VENETA

LANE COUNTY, OREGON

PREPARED BY THE
OREGON STATE HIGHWAY DIVISION
IN COOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Population 1,730

Scale in Feet

Revised November 1973

LEGEND

- FEDERAL AID INTERSTATE SYSTEM
- FEDERAL AID PRIMARY SYSTEM
- FEDERAL AID SECONDARY SYSTEM - STATE
- FEDERAL AID SECONDARY SYSTEM COUNTY
- OTHER FEDERAL AID SECONDARY LOCAL
- TERMINATION OF FA SYSTEM
- TERMINATION OF ROUTE
- DIVIDED HIGHWAY
- UNDIVIDED HIGHWAY NO. OF LANES
- STREET OPEN FOR TRAVEL
- STREET DEDICATED BUT NOT OPEN

- INTERSTATE NUMBERED ROUTE (FAI)
- U.S. NUMBERED ROUTE
- STATE NUMBERED ROUTE

- POST OFFICE
- SCHOOL
- CITY CENTER
- R R DEPOT
- CITY LIMITS
- PUBLIC BLDG.
- CH CITY HALL
- CT COURT HOUSE
- A ARMORY
- L LIBRARY

5-14-74

RESOLUTION No. 83

WHEREAS, under the provisions of ORS 366.800 and 366.805 there has been withdrawn from state highway funds appropriated for allocation to the several cities of the State of Oregon the sum of Two Hundred Fifty Thousand and No/100 ($250,000) Dollars, and said sum has been set up in a separate account to be administered by the Oregon Transportation Commission and to be spent each year by said Commission upon streets not a part of the state highway system, within cities, which are receiving excessive wear through sudden increases in population in the area or heavy and unusual traffic; and

WHEREAS, the City of Veneta is an incorporated city of the State of Oregon and has a population of 1730 as given by the latest official census; and

WHEREAS, the following streets of said city,

Dunham between 4th and 5th Streets

Second Street between West Broadway and Dunham

RECEIVED
COUNTY & CITY SECTION
MAY 17 1974
ENGR. COOR. OE AE UE
UPE CE RE RPE

are not a part or parts of the state highway system, but are streets under the jurisdiction and control of said city which are "receiving excessive wear through sudden increase in population in the area, or heavy and unusual traffic," and

WHEREAS, said streets are and each of them is in need of repair, reconditioning, and other major improvement,

NOW, THEREFORE, the members of the City Council, in regular or special session assembled, do hereby find, declare, and resolve:

1. That the aforesaid named streets of said city are in need of repair, reconditioning, and other major improvement.

2. That said streets are in their present state and condition of disrepair by reason of excessive wear through sudden increases in population in the area, or by heavy and unusual traffic.

3. That the Oregon Transportation Commission hereby is respectfully requested to consider and declare said streets as qualified for reconditioning, repair, and other improvement out of funds allocated and made available by and through the said $250,000 appropriation of state highway revenues which is to be administered and spent by the Transportation Commission.

cc-50, 1959 Rev.)

4. That the City of Veneta does hereby offer to Transportation Commission and does hereby pledge complete cooperation and assistance to the end that said city may share and participate in the use and benefit of said special fund and appropriation; and therefore does designate Richard Gutman as the official representative of the city in all negotiations resulting from this request.

Passed and approved this 14th day of May, 1974.

There is attached hereto and made a part hereof, a city map on which is indicated the street, streets, road, or roads described in this resolution.

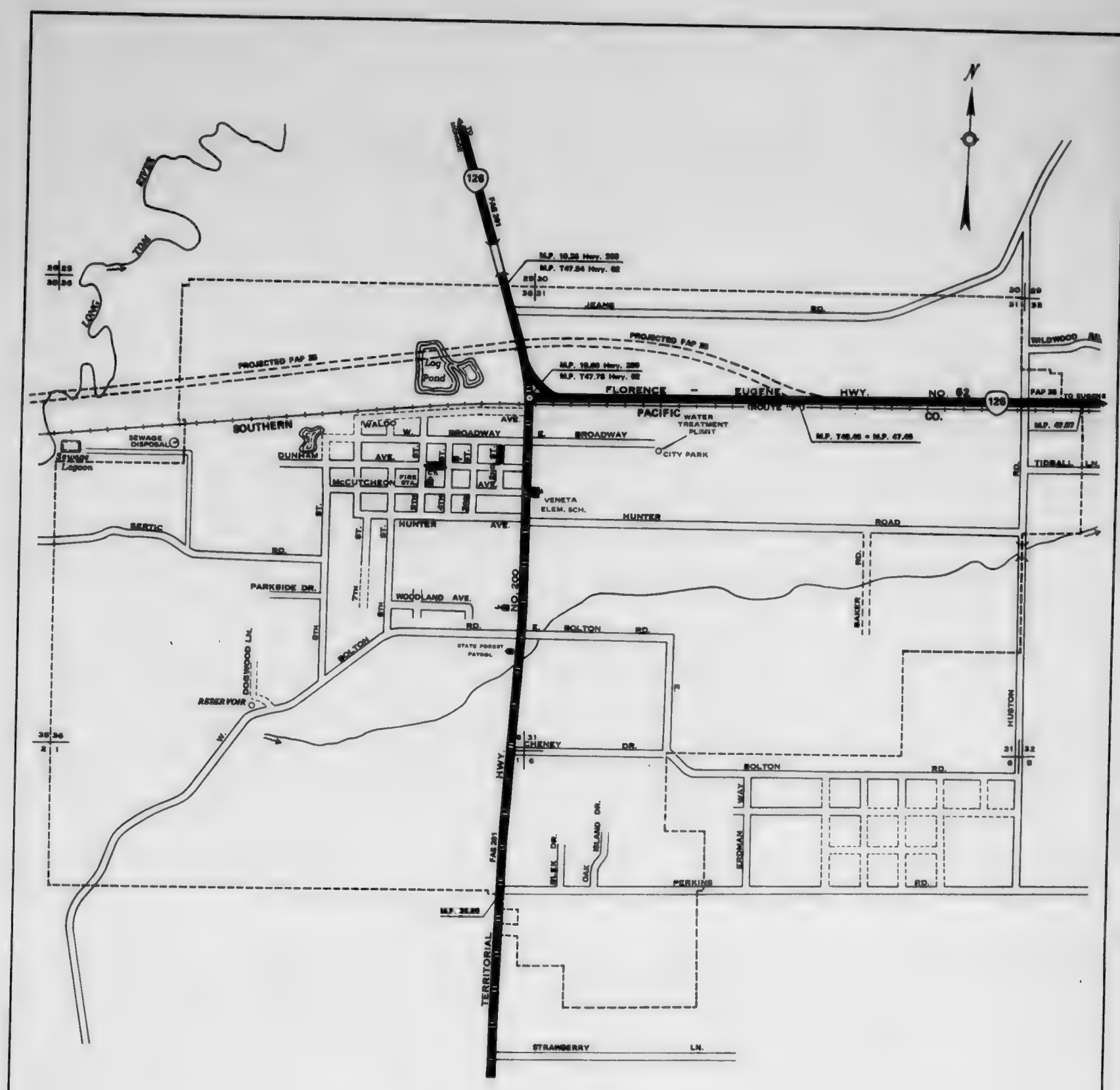
- - - - - - - - - - - - - - - - - -

I hereby certify that the foregoing resolution was passed and approved by the City Council of the City of Veneta at a regular or special meeting of said Council, held on the 14th day of May, 1974, and the above copy is a true and correct copy of the original and of the whole thereof.

Dated this 14th day of May, 1974.

Doris I. Duffield
City Recorder

(cc-50, 1959 Rev.)



T 17-18 S R 5-6 W W.M.

VENETA

LANE COUNTY, OREGON

PREPARED BY THE
OREGON STATE HIGHWAY DIVISION
IN COOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

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Scale in Feet

Revised November 1973

LEGEND

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- U.S NUMBERED ROUTE
- STATE NUMBERED ROUTE

- POST OFFICE
- SCHOOL
- CITY CENTER
- R R DEPOT
- CITY LIMITS
- PUBLIC BLDG.
- CY CITY HALL
- CT COURT HOUSE
- A ARMORY
- L LIBRARY

• 8256 Lyons (14th and 15th Sts.) 1975
• Sec. City Streets.
• (Paving)

C/A 5206 2-11-75

Date December 10, 1975

OREGON STATE HIGHWAY DEPARTMENT

ITEMIZED STATEMENT OF COSTS
SPECIAL CITY ALLOTMENT PROJECT

Program Year 1975

Contract # 8256 Prefix 322-1724 Survey Prefix 322-1423

Street 14th and 15th Streets

City Lyons

Payments to Contractor (see attached voucher)	$ 11,140.61*
Engineering and Contingencies	966.45
Survey: Total $1,771.76 Prorated Share	---
TOTAL	$12,107.06
Agreed State Share	$12,107.06
Agreed City Share	---
City Advance Deposit	---

Reference: Outside Billing none
*Includes $2.63 interest

RU

VENETIA (SECOND STREET)		320	1726	201	00				
		320	1726	206	00			11,235.81	11,235.81
		320	1726	900	00			6.45	6.45
				** JOB TOTALS **			**	1,199.23	1,199.23
[illegible] 14TH AND 15TH STS)		322	1724	201	00		**	12,441.49	** 12,441.49
		322	1724	206	00			11,137.98	11,137.98
		322	1724	900	00			2.63	2.63
				** JOB TOTALS **			**	966.45	966.45
3RD ST-7TH ST HARRISBURG		322	1725	900	00		**	12,107.06	** [illegible]
				** JOB TOTALS **			**	25,000.00	25,000.00
							**	25,000.00	** 25,000.00

11-75

AL TO DATE JOB COST SUMMARY

NOVEMBER 1975 PAGE 268

SCRIPTION OF JOB OR DEPARTMENT	PREFIX	FUNCTION	GR	CURRENT MONTH	FISCAL YEAR TO DATE	GRAND TOTAL TO DATE
AL. [illegible] 5TH ST) SEC	324 1726	201	00 P		22,268.41	22,268.41
	324 1726	204	00		1,074.04CR	1,074.04CR
	324 1726	900	00	8.68	17,784.75	17,784.75
		** JOB TOTALS **		8.68 **	22,979.12 **	22,979.12
DETROIT (D AND PATTON STS)	324 1727	201	00			
	324 1727	201	00 P		100.36	100.36
	324 1727	206	00		23,877.00	23,877.00
	324 1727	900	00		5.61	5.61
		** JOB TOTALS **			719.40	719.40
WILLOW GRV BP (HEPPNER)	325 1707	900	00		** 24,702.37 **	24,702.37
		** JOB TOTALS **		25,000.00	25,000.00	25,000.00
LAFAYETTE 7TH ST				25,000.00 **	25,000.00 **	25,000.00
	336 1726	201	00			
	336 1726	201	00 P	12,925.75	12,925.75	12,925.75
	336 1726	204	00		8,744.00	8,744.00
	336 1726	206	00 P	437.20		
	336 1726	900	00	5.42	5.42	
				184.38		

(7-75)

[illegible]	322	1418	910	00						358 72
	322	1418	924	00						22 18
			** JOB TOTALS **			**		**		380 90
	322	1423	901	00	1 82		647 99			647 99
14TH ST&15TH ST (LYONS)	322	1423	905	00	4 95		484 60			484 60
	322	1423	910	00	145 01		438 19			438 19
	322	1423	914	00	1 72		1 32			1 32
	322	1423	920	00	16 91		16 91			16 91
	322	1423	921	00	148 28		168 76			168 76
	322	1423	** JOB TOTALS **		312 09	**	1.771 76	**		1.771 76
	322	1425	910	00	27		222 59			222 59
[illegible] (CHERRY-BEECH)			** JOB TOTALS **		27	**	222 59	**		222 59
	323	1402	901	00 0						1.048 [illegible]
NYSSA (KING AVE)	323	1402	905	00 0						51 [illegible]
	323	1402	** JOB TOTALS **			**		**		1.100 41
	324	1457	901	00	26		5 95			1.[illegible]
[illegible]BORAH	324	1457	[illegible]	00	04		262 38			2.[illegible]
	324	1457	910	00						861 [illegible]
	324	1457	914	00						163 [illegible]
	324	1457	918	00						1 [illegible]
	324	1457	** JOB TOTALS **		30	**	268 33	**		6.102 [illegible]
	324	1458	901	00	37 42		39 42			39 42
[illegible] (CHURCH ST BR)			** JOB TOTALS **		37 42	**	39 42	**		39 42
	324	1459	901	00						3 [illegible]
[illegible]ILVERTON (MAIN ST)	324	1459	[illegible]	00						1 [illegible]
	324	1459	910	00						[illegible]
	324	1459	914	00						[illegible]
	324	1459	921	00						168 [illegible]
	324	1459	** JOB TOTALS **			**		**		5.713 [illegible]
	324	1470	901	00	1 08		1.082 70			1.082 70
N FIFTH ST ([illegible]VILLE)	324	1470	[illegible]	00	81 [illegible]		729 70			729 70
	324	1470	910	00	38 [illegible]		667 96			667 96
	324	1470	914	00	2 [illegible]		2 45			2 25
	324	1470	920	00	[illegible]		29 75			29 75
	324	1470	921	00	[illegible]		71 14			71 14
	324	1470	** JOB TOTALS **		185 [illegible]	**	2 583 50	**		2.583 50
	324	1471	900	00	72		72			72
S ST & PATTON ST (DETROIT)	324	1471	901	00	41 76		850 16			850 16

rm 81-734-1065

Invoice for Service Rendered or Goods Furnished—the
OREGON STATE HIGHWAY DIVISION
by

This Space

te October 1, 1975

voice No.

O. No. Contract 8256

North Santiam Paving Co.

PO Box A

Stayton, OR 97383

Principal $607.23

Interest from 9-24-75 to 10-6-75 inclusive

13 days at $.2024/day = $2.63

FISCAL YEAR
75-76

OREGON STATE HIGHWAY DIVISION

Form 81-734-1022 (Rev. 9-72)

DISBURSEMENT VOUCHER

WARRANT NUMBER
16821

North Santiam Paving Co.
P.O. Box A
Stayton, OR 97

VOUCHER DATE
10-2-75

TOTAL AMOUNT
$ 609.86

Contract#8256 Est.#2F Period Covered to 7/17/75 Principal $ 607.23

Interest 2.63

dj

FOR PAYMENT OF ACCOUNTS INCURRED BY THE STATE HIGHWAY DIVISION BY AUTHORITY OF ORS 366.438

CHECKED - Acctg. Control

8256

September 29, 1975

Insurance Co. of North America
P. O. Box 7985
San Francisco, CA 94120

Gentlemen:

On September 22, 1975, we wrote to you concerning release of final payment on Contract No. 8256 awarded to North Santiam Paving Company for work on 14th and 15th Streets in Lyons in Linn County.

Final payment on this contract is $607.23 and the total contract amount is $11,137.98. No work was performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

ser

cc North Santiam Paving Co.
P. O. Box A
Stayton, OR 97383

bc C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
C. O. Fredrickson

...VISION

...AYMENT VOUCHER

LINN	8256	ESTIMATE NO. 2
HIGHWAY: CITY STREETS	FEDERAL AID PROJECT NO.	PREFIX NO'S.
SECTION: LYONS (14TH & 15TH ST)		

NO.	ITEMS	UNITS	UNIT PRICE	QUANTITY TO DATE	AMOUNT TO DATE	PREVIOUS AMOUNT
V01	9N AGGREGATE SHOULDERS	TONS	6.0000	180.590	1083.54	1080.00
V02	9N CLASS C ASPHALT CONCRETE	TONS	17.2500	582.866	10054.44	10005.00

9-23-75

	GROSS RETAINAGE		
	TREASURER DEPOSIT		
	* NET RETAINAGE		
	TOTAL CONTRACT ITEMS	11137.98	11085.00
	% RETAINED ON CONTRACT ITEMS		554.25
	FORCE ACCOUNT		
	TOTAL PAYMENTS	11,137.98	10,530.75

DATE: 09 23 75 PG. 01 8256

PREVIOUS VOUCHER NO.: 8796

CHECKED BY: jp/dj DHD

ENGINEER OR AUDITOR: W. Mueller

VISION

YMENT VOUCHER

LINN

8256

ESTIMATE NO. 2

HIGHWAY CITY STREETS

FEDERAL AID PROJECT NO.

SECTION LYONS (14TH & 15TH ST)

PREFIX NO'S.

ITEMS	UNITS	UNIT PRICE	QUANTITY TO DATE	AMOUNT TO DATE	PREVIOUS AMOUNT	PRESENT AMOUNT
ATE SHOULDERS	TONS	6.0000	180.590	1083.54	1080.00	3.54
C ASPHALT CONCRETE	TONS	17.2500	582.866	10054.44	10005.00	49.44

8256

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

NAME OF JOB: LYONS (14th & 15th STS.)	SECTION: LYONS (14th & 15th STS.)	WEEK ENDING: JULY 18, 1975
	HIGHWAY: CITY STREETS	SECTION PREFIX: 322-1724
		COUNTY: MARION
CONTRACTOR: NORTH SANTIAM PAVING CO.	KIND OF WORK: PAVING	
DATE OF CONTRACT: JULY 1, 1975	CONTRACT NUMBER: 8256	FEDERAL AID PROJECT NUMBER: STATE
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 8 SUPERVISION: 1	DATE WORK STARTED: JULY 14, 1975	ESTIMATED COMPLETION DATE:
	SPECIFIED WORK DAYS	WORK DAYS USED
	SPECIFIED CALENDAR DAYS 60	CALENDAR DAYS USED 0
PROJECT AUTHORIZATION: $ 14,146.48	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED: 0
EXCLUSIVE OF ENGINEERING: $ 12,910.98	ENGINEERING AUTHORIZATION $ 1,235.50	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 100
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 12,235.98	ENGINEERING COST TO DATE $ 801.00	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 100
ESTIMATED PERCENT: OVERRUN / UNDERRUN . . . . . 0 %	PERCENT OF AUTHORIZATION . . . . . 65 %	DATE PROJECT WAS COMPLETED: JULY 17, 1975

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK: 3 rollers, 1paver, 1 distributor, 7 trucks, 1 loader, 1 waterwagon

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY 13	Cloudy	0		
MONDAY 14	Cloudy	0		
TUESDAY 15	Cloudy	0		
WEDNESDAY 16	Cloudy	0		
THURSDAY 17	Showers	0		
FRIDAY 18	Cloudy	0		
SATURDAY 19	Clear	0		

Routing
Keasey
Bond
Jackmond
Harwood
Johnsen
Walker
Richards
Glenn
Berg

RECEIVED
JUL 30 1975
CONSTRUCTION
SECTION

BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK

SUNDAY 13	No Activity
MONDAY 14	Contractor cleaned shoulders on both sides of both streets as required.
TUESDAY 15	Contractor paved base lift on both streets and top lift on 14th St.
16 WEDNESDAY	Contractor paved top lift on 15th St.
17 THURSDAY	Contractor placed shoulder rock on both streets. Project complete.
FRIDAY 18	No Activity
SATURDAY 19	No Activity.

REMARKS

Contractor completed paving both streets 2 lifts and placing shoulder aggregate.

Project completed in four days.

SIGNED Warren E. Mueller LOCATION Salem

Warren E. Mueller

BEN GIFFORD

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP*F216

BEN GIFFORD

Section Lyons (14th & 15th Sts)

Highway City Streets

County Linn

Kind of Work Paving

Prefix 322-1423

Programming Estimate $ 24,900

Project Length 0.12 mile

Completion Time 60 Cal. workdays

Sept. '75

FA Project No. State

June 26, letting

ESTIMATED CONSTRUCTION AUTHORIZATION

Estimated Contract Amount		$ 21,720.00
Anticipated Additional Items:		
Royalty Payment		
Building Permit Fees		
Slide Correction		
Railroad Protective Costs.		
Other Railroad Costs		
Permanent Signing		
Permanent Pavement Striping.		
Stage Construction Striping.		
Temporary Erosion Control.		
Install Truck Scale Mechanism.		
Truck Scale House		
Install Temporary Traffic Signals.		
Install Water Meter.		
~~Furnish Water~~. Reconditioning Old Roadbed	100.00	$ 100.00
Laboratory Fees.		
Furnish Mail Box Posts		
Pipe Bedding Materials		
On the Job Trainees.		
State Responsibility for Damages		
Signal Controller Testing		
Bikeway Signs		
Adjust Utilities		
Misc. Permit Fees		
	SUBTOTAL	$ 21,820.00
Contingencies (4-1/2%)		981.90
Engineering (10 %)		2,182.00
Credit for		
Estimated Net Authorization, Construction		$ 24,983.90

Rev. 5-27-75

HEN GIFFORD

Section Lyons (14th & 15th Sts) Programming Estimate $ 24,900

Highway City Streets Project Length 0.12 mile

County Linn Completion Time 60 Cal. workdays

Kind of Work Paving Sept. '75

Prefix 322-1423 FA Project No. State

June 26, letting

ESTIMATED CONSTRUCTION AUTHORIZATION

Estimated Contract Amount		$ 21,720.00
Anticipated Additional Items:		
Royalty Payment		
Building Permit Fees		
Slide Correction		
Railroad Protective Costs		
Other Railroad Costs		
Permanent Signing		
Permanent Pavement Striping		
Stage Construction Striping		
Temporary Erosion Control		
Install Truck Scale Mechanism		
Truck Scale House		
Install Temporary Traffic Signals		
Install Water Meter		
Furnish Water		
Laboratory Fees		
Furnish Mail Box Posts		
Pipe Bedding Materials		
On the Job Trainees		
State Responsibility for Damages		
Signal Controller Testing		
Bikeway Signs		
Adjust Utilities		
Misc. Permit Fees		
		$ 0
		$ 21,720.00
Contingencies (4-1/2%)		977.40
Engineering (10 %)		2,172.00
	SUBTOTAL	$
Credit for		
Estimated Net Authorization, Construction		$ 24,869.40

Butler

Lyons (14th & 15th Sts) Sec

Linn County

Estimate

Aggregate Shoulders	260 tons	12.00	3,120
Class "C" Asphalt Concrete	620 tons	30.00	18,600
			21,720

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

TO Oregon ~~State Highway~~ Transportation Commission xxxxxxxxxx

DATE June 18, 1975

FROM F. B. Klaboe
State Highway Engineer

SUBJECT Footpaths and Bicycle Trails
June 5, 12, 19 and 26 Bid Lettings

Bids were taken June 5, 12, 19 and 26 on the following projects. This is an informational report to document the Highway Division's action taken with regard to establishing footpaths and bicycle trails on those projects as set forth in Oregon Laws 1971, Chapter 366.

June 5 Bid Letting:

1. Pacific Highway East U'Xing-N. Columbia Boulevard
Pacific Highway, Multnomah County

Grade, Pave, Sign and Illumination Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout the section.

2. Rowena-The Dalles
Columbia River Highway, Wasco County

Grade, Pave, Sign and Illumination Project

Same as No. 1.

3. Hilgard-LaGrande
Old Oregon Trail Highway, Union County

Grade, Pave and Sign Project

Same as No. 1.

4. McVay Highway at Pacific Highway O'Xing
McVay Highway, Lane County

Signal Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

5. Oregon Coast Highway at W. Devils Lake Road
Oregon Coast Highway, Lincoln County

Grade and Pave Project

Bicycle trails will not be included as the project consists of minor grading and surfacing to obtain a left-turn refuge. Four-foot shoulders will be provided throughout the project.

6. N. W. Elks Drive-N. W. Conifer Boulevard (Corvallis)
Pacific Highway West, Benton County

Grade and Pave Project

Same as No. 1, except that 6-foot shoulders will be provided.

7. Poormans Creek Bridge
Jacksonville Highway, Jackson County

Grade, Pave and Structure Project

Same as No. 1, except that 4-foot shoulders will be provided.

June 12 Bid Letting:

1. W. Marquam Interchange-N. Tigard Interchange
Pacific Highway, Multnomah County

Grade, Pave, Sign and Illumination Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout the project.

2. S. W. Clay Street-S. W. Sheridan Street
Pacific Highway West, Multnomah County

Roadside Improvement Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

3. Link River-Bisbee Street
Klamath Falls-Lakeview Highway, Klamath County

Paving Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Five-foot sidewalks exist.

4. Smith Point (Astoria)
Oregon Coast Highway, Clatsop County

Roadside Improvement Project

Same as No. 2.

5. Interstate Avenue Grade Separation
Pacific Highway West, Multnomah County

Guardrail Project

Same as No. 2.

June 19 Bid Letting:

1. Bellevue Street S. E.-Mission Street S. E. (Salem)
FAUS 1555, Marion County

Grade, Pave, Structure and Illumination Project

An 8-foot Class II bikeway will be provided.

2. Chehalem Creek (Newberg)
Pacific Highway West, Yamhill County

Grade, Pave and Structure Project

Five-foot sidewalks will be provided.

3. Sharps Corner-Diagonal Road
Columbia River Highway, Umatilla County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Four-foot shoulders will be provided.

4. Jordan Valley-Jordan Creek
I.O.N. Highway, Malheur County

Grade and Pave Project

Same as No. 3.

5. Hogback Summit-Lake Abert
Lakeview-Burns Highway, Lake County

Grade and Pave Project

Same as No. 3.

6. S. Fork Big Butte Creek (Butte Falls) Bridge
FAS 15-101, Jackson County

Structure Project

Same as No. 3.

7. Middle Fork Malheur River (Acton Bridge)
FAS 458, Harney County

Grade, Base and Structure Project

Same as No. 3, except that 2-foot shoulders will be provided.

8. McMinnville-Willamina-Sheridan Area Safety Projects
Pacific Highway West and Salmon River Highway
Polk and Yamhill Counties

Attenuators, Guardrail and Sign Projects

Footpaths or bicycle trails are not incorporated

In this project as no new highway construction, reconstruction or relocation is involved.

9. Simpson Creek
Corvallis-Newport Highway, Lincoln County

Grade, Pave and Culvert Project

Same as No. 3.

10. Daisy Street-SPRR (Springfield)
Springfield-Creswell Highway, Lane County

Grade and Pave Project

An 8-foot, Class I or Class II bikeway will be provided.

11. Aumsville (N. Fifth Street)
City Street, Marion County

Grade and Pave Project

Four-foot sidewalks will be provided.

June 26 Bid Letting:

1. Winchester Interchange-Garden Valley Boulevard
Pacific Highway, Douglas County

Grade, Pave and Sign Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout this section.

2. Motorist Service Signing Project, S. Unit
Pacific Highway, 3 Counties

Signing Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

torist Service
ific Highway,

gning Project

Same as No. 2.

torist Service S
Tumbia River Hig

gning Project

Same as No. 2.

E. Union Avenue-
Tumbia River Hig

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Footpaths and bi
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W. 72nd Avenue In
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ade and Pave Projec

An 8-foot Class I

ve Corners-Lakevie
amath Falls-Lakevie

ade and Pave Project

Same as No. 1, exc
5-foot sidewalks in

ons (14th and 15th S
ty Street, Linn Coun

3. Motorist Service Signing Project, N. Unit
Pacific Highway, 6 Counties

Signing Project

Same as No. 2.

4. Motorist Service Signing Project
Columbia River Highway, 9 Counties

Signing Project

Same as No. 2.

5. N. E. Union Avenue-N. E. 92nd Avenue
Columbia River Highway, Multnomah County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout this section.

6. S. W. 72nd Avenue Interchange-S. W. Boones Ferry Road
Beaverton-Tigard, Pacific and FAS 943 Highways
Washington and Clackamas Counties

Grade and Pave Project

An 8-foot Class I bikeway will be provided.

7. Five Corners-Lakeview and Hunters Lodge Road-Lakeview
Klamath Falls-Lakeview and Fremont Highways, Lake County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders or 5-foot sidewalks in curbed areas are available.

8. Lyons (14th and 15th Streets)
City Street, Linn County

Paving Project

Same as No. 1, except that two 12-foot paved travel lanes and 6-foot gravel shoulders will be provided.

9. Veneta (Second Street)
City Street, Lane County

Grade and Pave Project

Same as No. 1, except that 8-foot shoulders will be provided.

10. Detroit (D and Patton Streets)
City Streets, Marion County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders will be provided.

11. Rooster Rock State Park
Multnomah County

Beach Restoration and Erosion Control Project

Same as No. 2.

bc C. W. Head
G. M. Baldwin
A. E. Johnson
E. S. Hunter
R. L. Schroeder
D. G. Talbot
L. E. George
Victor D. Wolfe
Gary Sund
Jack Graham

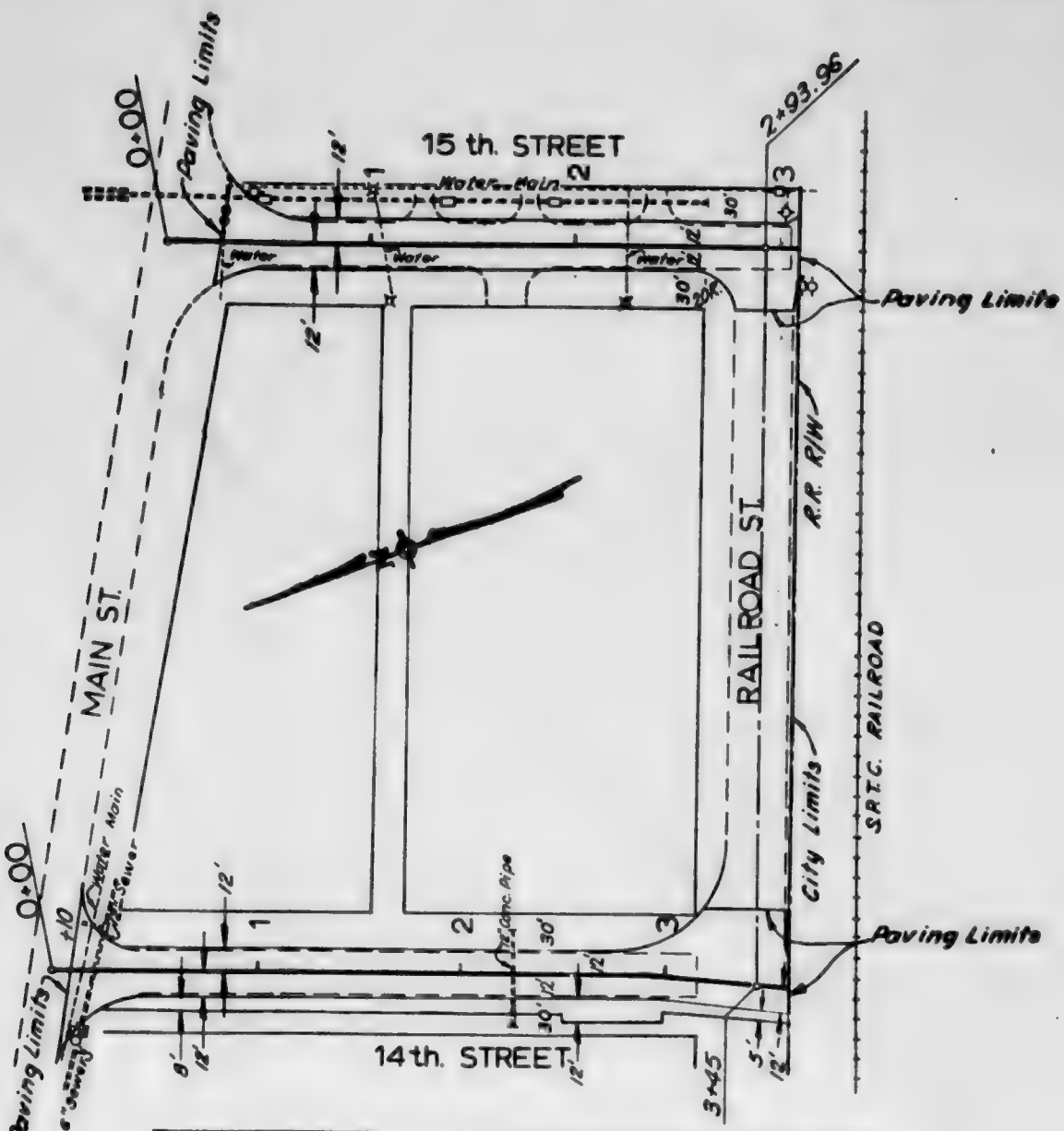
WHW:mc ja

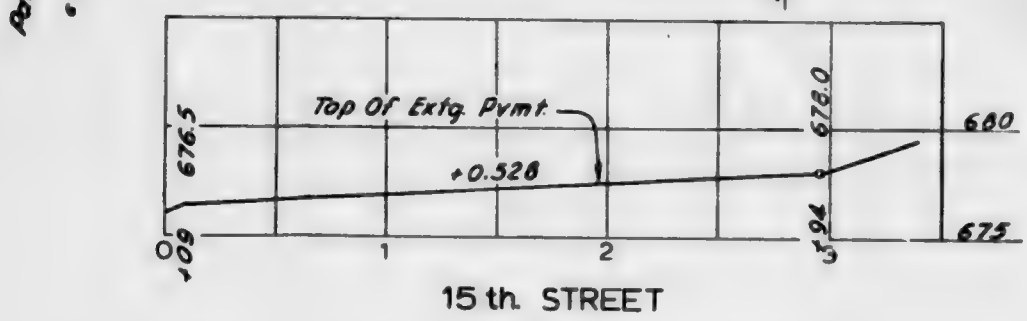
Overall Length Of Project 0.12 Mile

ccompanied By Drg. Nos.: 3-12, 2126 C - Temporary Protection & Direction Of Traffic
2050 - Pavement Const.

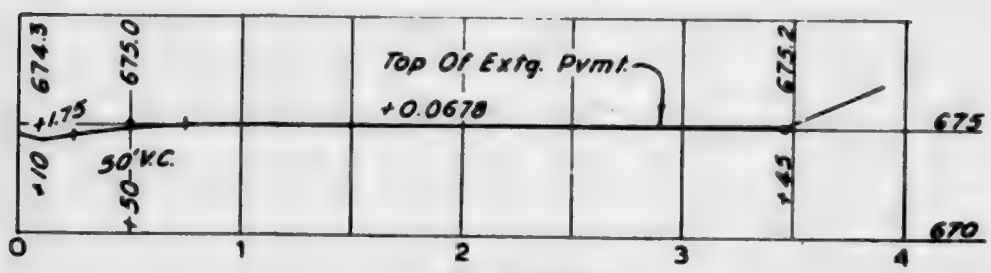
16Y-169

OREGON STATE HIGHWAY DIVISION				SHEET No.
PAVING LYONS (14TH & 15TH STS.) SEC. CITY STREETS LINN COUNTY				1
FED. ROAD Div. No.	STATE	PROJECT NUMBER	DATE	TOTAL SHEETS
10	OREGON	STATE	June 1975	1





15 th. STREET

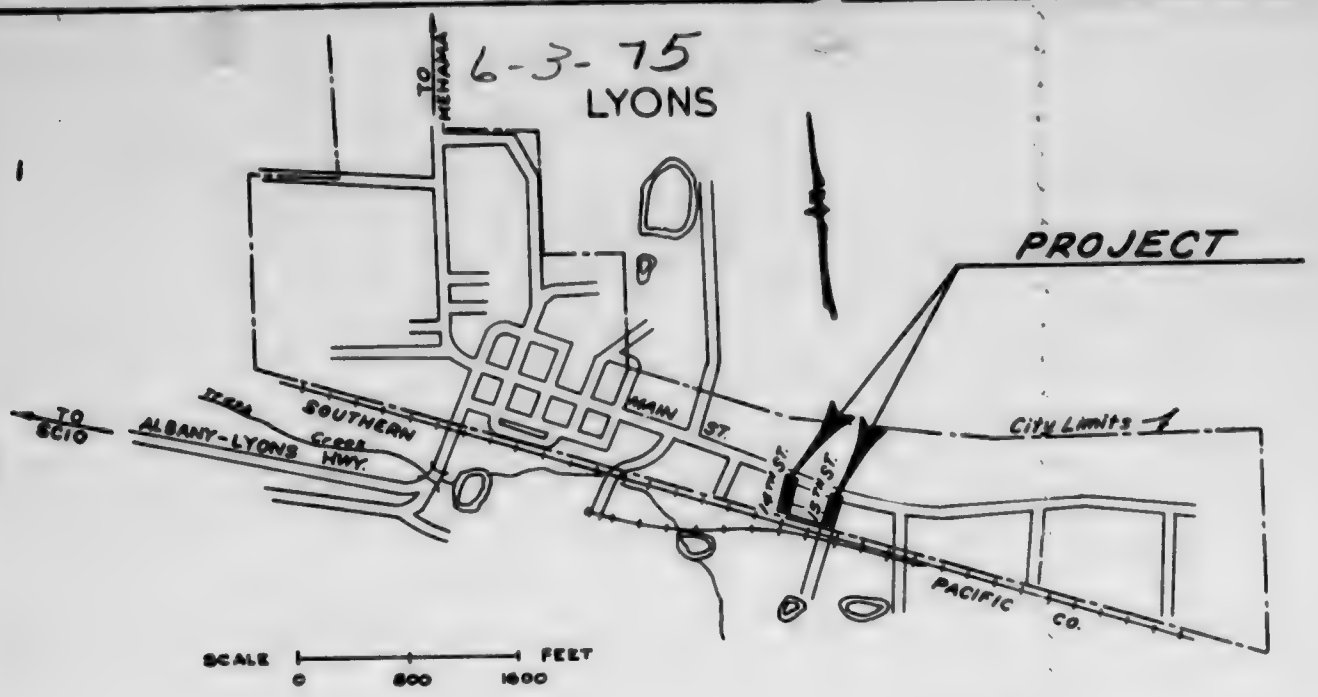


14 th. STREET

6-3-75

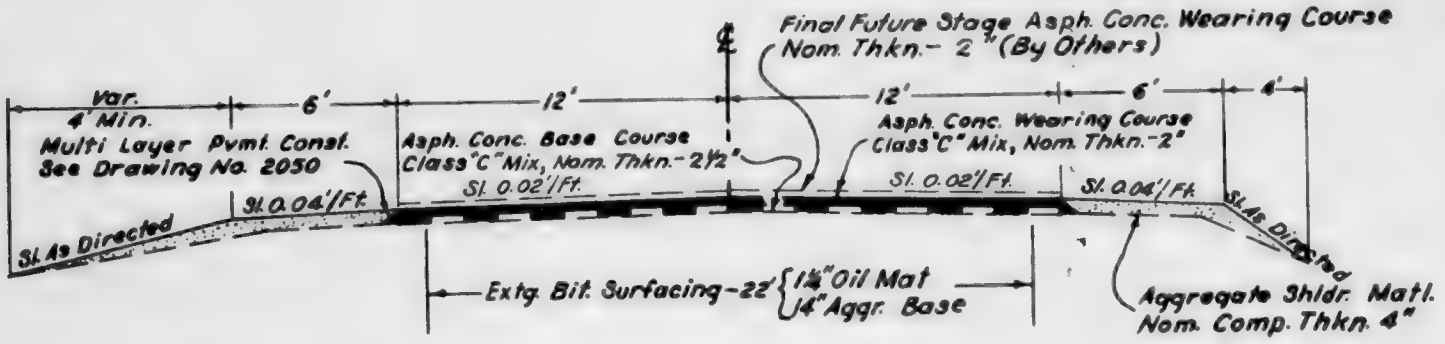
To Be Accompanied

11



TYPICAL SECTION

STA. 0+10 To STA. 3+60 (14 th. ST.)
(For Surfacing Details Not Shown, See Section Below)



STA. 0+10 To STA. 3+60 (14 th. ST.)
0+25 To 3+10 (15 th. ST.)

APPROVED
CITY OF Lyons
BY MAYOR June M Reuter
BY RECORDER Evelyn L Yoemans
DATE 6-3-75

REGISTERED PROFESSIONAL ENGINEER
FRED E. KLABOE
MAY 6, 1975

SUMMARY

ITEM	UNIT	QUANTITY
ggregate Shoulders	Ton	260
lass "C" Asphalt Concrete	Ton	620

NARRATIVE REPORT OF SURVEY

14TH. AND 15TH. STREETS

CITY OF LYONS

LINN COUNTY

4 – 75 –

PURPOSE OF SURVEY

The purpose of this survey was to prepare plans, specifications and an estimate of cost to overlay 14th. and 15th. streets in the City of Lyons, from Main St. to the Southern Pacific Railroad, a distance of approximately one block on each street.

ALIGNMENT

No change in horizontal alignment is anticipated. The existing pavement was placed in approximately 1962. This appears to fit the Right of Way as nearly as we can determine, and our center line is based upon this.

EXISTING FACILITY

14TH. STREET 22ft. wide oil mat, a 9ft. oil mat shoulder on the westerly and a 5ft. rock shoulder on the easterly side of the street.

15TH. STREET 22ft. wide oil mat with 5ft. rock shoulders both sides.

NEW WORK

Our design was to pave 24ft. with 6ft.+- rock shoulders on each side, with the depth of the paving to be 3 inches.

We worked this up on the basis of the above except for the westerly side of 14th. street where the existing oil shoulder seems to indicate the need for a pavement overlay. In this case, we provided for a 3 inch to 1 inch taper overlay to cover the existing oil mat. This area is used to an extent by logging trucks who have to wait their turn to get to the scaling station near the railroad.

In addition, we have provided for the overlay of a flare from 14th. St. to the East on the connection to 15th. Street. This flare is about 20ft.+- from the edge of the normal pavement edge but is needed as the existing pavement in this area is broken.

A check with Mr. Gregg has given us the information that to properly overlay both 14th. and 15th. Streets, we would need about 6 inches of the Standard A/C pavement material. His alternative is to use a Modified 'C' Mix which is supposed to have more flexibility to compensate for the relatively unstable base.

The design of this mix is as follows:

pass 3/4	100%
pass 1/2	95 - 100%
pass 1/4	51 - 71%
pass 10	10 - 20%
pass 200	2 - 6% (including 1/2 - 1-1/2% Portland Cement additive.)
Asphalt	4 - 9%

The estimate we had prepared, based upon 3 inches of A/C, the shoulder paving, the intersection overlay and the rock shoulders, came to $14,900. According to Mr. Gregg, we may decrease the depth of the overlay by up to an inch and have satisfactory results. Thus if we hold to 2-1/2 inches of material, the estimate may be decreased by $1500 which would be well within the limitations of $14000.

BID ITEMS

The Bid Items appear to be standard with the possible exception of #5 - Class "C" Asphaltic Concrete.

We have made our estimate on the basis of the mixture including the asphalt. To maintain control of the asphalt content I would suggest that we call for a high percentage of Asphalt (say 7%) as a basis for biding with the provisions for a adjustment if the actual percentage used varied from this by more than 1% either way. The percentage of Asphalt used would be determined by the

normal Rotarex Extraction Process.

Item #7 - Grader Work and Hand Patching has been placed in the estimate to cover the anticipated work where the existing rock shoulders are out of shape or too high and where we are going to have to do a small amount of patching ahead of the paving on 15th. to fill in some local pot-holes.

LOCATION COST ESTIMATE AND QUANTITY SUMMARY

SECTION 14th & 15th Streets (Lyons) UNIT OR PART _____ Sheet 1 of 1

HIGHWAY City Streets PREFIX 322-1423 COUNTY Linn

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	AMOUNT
1	110	Mobilization	Lump Sum	All	-	953
2	111(a)	Temp. Prot. & Direct. Traffic	Lump Sum	All	-	500
3	111(b)	Temporary Signs	Sqr. Ft.	74	9.00	666
4	111(c)	Flagmen	Hour	16	11.00	176
5	304(c)	3/4-0 Aggregat Base	Cu. Yd	78	9.50	741
6	402	Class "C" Hapholt Concrete	Ton	412	23.00	9476
7	407	Asphalt in Tack Coat	Ton	1	150.00	150
8	*	Grader Work & Hand Patching	Lump Sum	All	-	100
	*	see "Narrature Report"				
			Total Contract Items			12,962
		Engineering & Contingencies	(20%)			2,572
			Est. Total Cost			15,434

8256

February 11, 1975

City of Lyons
City Hall
Lyons, OR 97358

Attention: Mrs. Evelyn L. Mormon
City Recorder

MISC. CONTRACTS and
AGREEMENTS No. 5206

Gentlemen:

Attached for your records is a fully executed copy of an agreement covering improvement on 14th and 15th Streets from the Lyons-Mill City Road to Railroad Street.

We have retained a fully executed copy of this agreement for the Transportation Commission's files.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

Att.

cc Don Harwell
(agree. att.)

5-31-74

CITY: Lisbon COUNTY: Linn

SECTION: 1 10th & 15th Sts 5/31/74

Preliminary CEL

ESTIMATE	Item	Unit	Gross*	Price	Amount
	Temp. protection & direction of traff. ($500-$1,000)	all	all	$ L.S.	$ 1000.00
	Clearing & grubbing	all	all	L.S.	
	General excavation	c.y.			
	Finishing roadbed & slopes ($1,500)	mile			
	Trench excavation	c.y.			
	Watering	M-gal.			
	Level material (3/4-0)	c.y.			
	Base material	c.y.			
	Asphalt Class C (6cm) & 11th	ton S.Y.	3700	5.45	20,165.00
	Binder	all	all	L.S.	
	Concrete inlets	each			
	Culvert pipe	lin. ft.			
	Concrete curbs	c.y.			

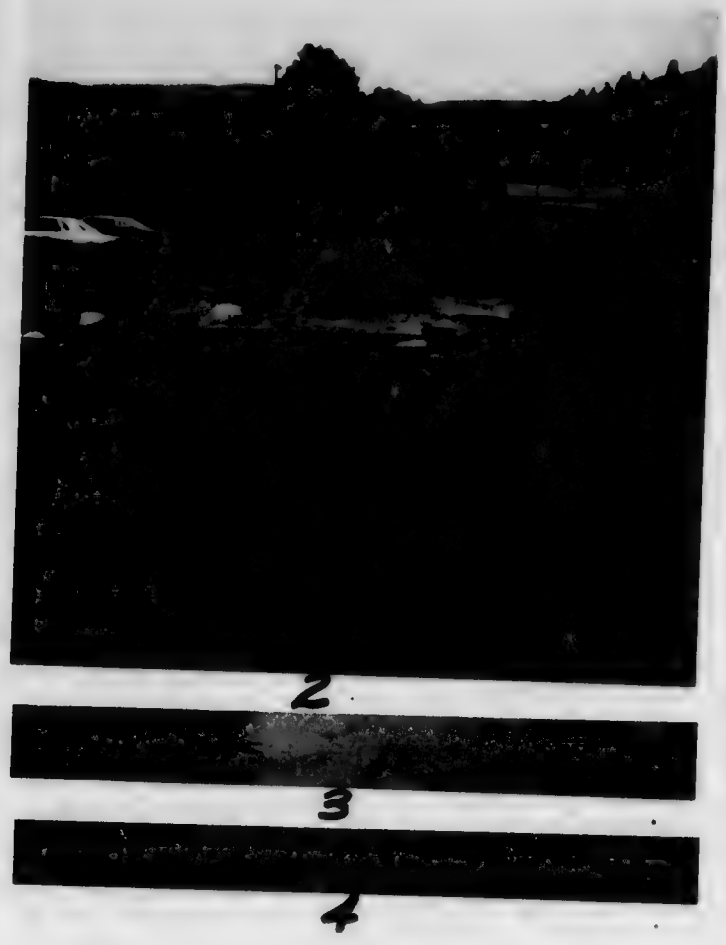
*Items include 10% allowance

Total	$ 21,165.00
Perm. signing ($100/intersection)	
Flagging	
Total	$ 21,165.00
Engineering & contingencies (20%)	4233.00
Total	$ 25398.00
City's estimated share of survey	1602.00
TOTAL ESTIMATED COST	$ 26,000.00

5-24-74

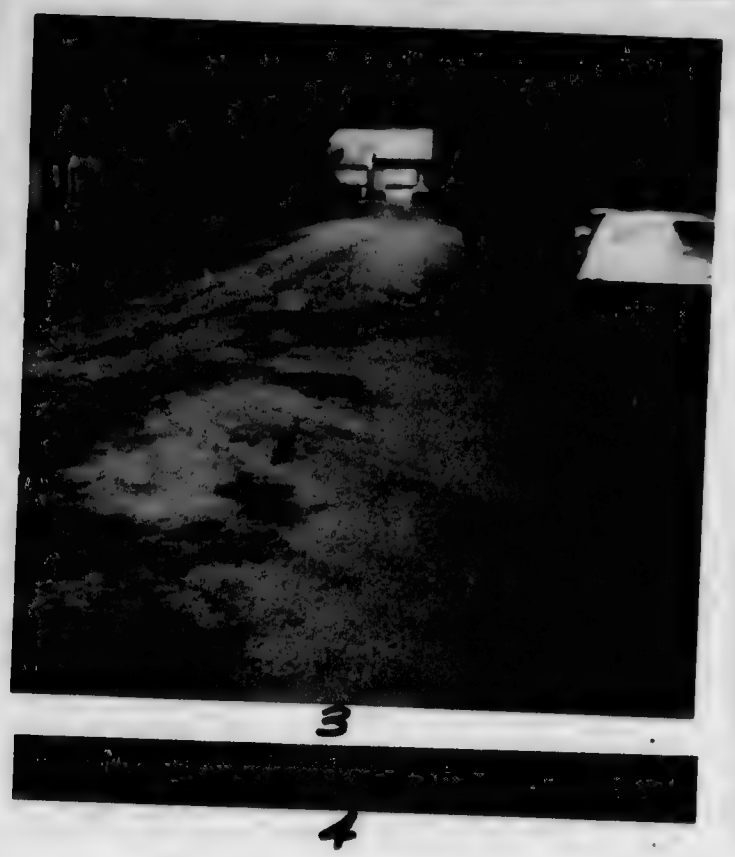
TYPICAL VIEWS
Lyons - 5-24-74 (1975 SCA)

1. Looking south on 14th from Lyons Mill City Rd
2. Looking north on 14th from Railroad
3. Looking south on 15th from Lyons Mill City Rd.
4. Looking north on 15th from Railroad



TYPICAL VIEWS
Lyons - 5-24-74 (1975 SCA)

1. Looking south on 14th from Lyons Mill City Rd
2. Looking north on 14th from Railroad
3. Looking south on 15th from Lyons Mill City Rd.
4. Looking north on 15th from Railroad



TYPICAL VIEWS
Lyons - 5-24-74 (1975 SCA)

1. Looking south on 14th from Lyons - Mill Cty Rd
2. Looking north on 14th from Railroad
3. Looking south on 15th from Lyons - Mill Cty Rd.
4. Looking north on 15th from Railroad

TYPICAL VIEWS
Lyons - 5-24-74 (1975 SCA)

1. Looking south on 14th from Lyons - Milton Rd
2. Looking north on 14th from Railroad
3. Looking south on 15th from Lyons - Milton Rd.
4. Looking north on 15th from Railroad

S.C.A. Investigation Data

City of Lyons Date 5-16-74 Div. II
Population: 19 1974 785
Street 14th & 15th

No. previous projects 2
Last project 1966 (year)
Total SCA funds $ 22,775.74
Funds/capita $ 29.01
Average/capita $ 41.40

EXISTING

Surface now in place: A.C. ___ Oil X Gravel ___ Concrete ___
Surface width: 22 feet, Shoulder-shoulder width: 6 feet
C-C width: ___ feet, R/W width: 60 feet
Remarks: Si Says it needs a seal coat

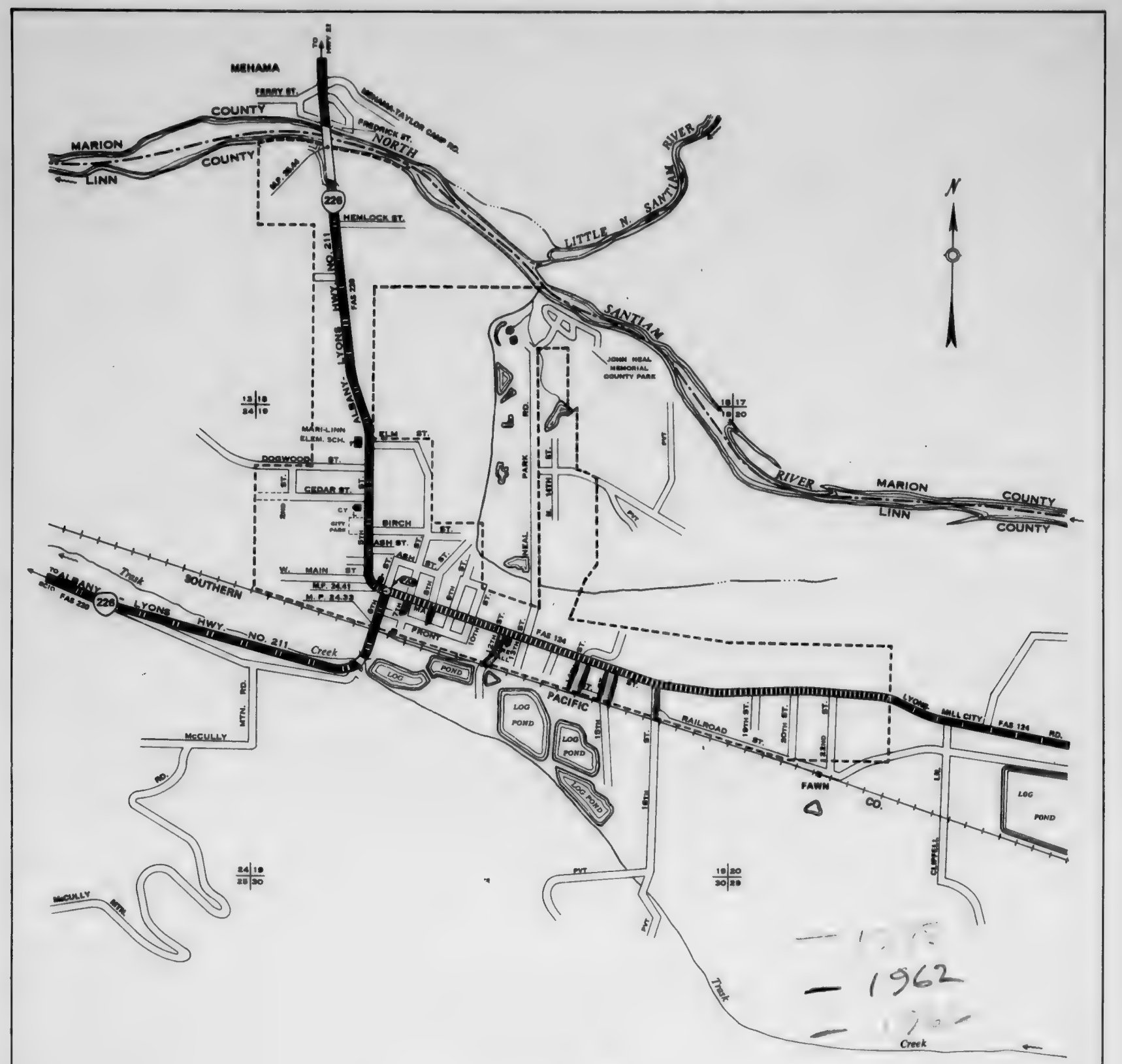
PROPOSED

Surfacing: A.C. X Oil ___ Other ___
Pave. width: 24 feet, Shoulder width 4 feet, C-C width: ___ feet
BASE DESIGN: A.C. 6 inches, Leveling — inches, Base — inches
Lime T.S.G. ___ inches, Blanket ___ inches, P.M.B.B. ___ inches
Length: 0.13 mile, 700 feet. Type curb: ___
Remarks: ___

ESTIMATE Item	Unit	Gross*	Price	Amount
Temp. protection & direction of traff. ($500-$1,000)	all	all	$ L.S.	$ 500
Clearing & grubbing	all	all	L.S.	—
General excavation	c.y.			—
Finishing roadbed & slopes ($1,500)	mile			—
Trench excavation	c.y.			—
Watering	M-gal.			—
Level material (3/4-0)	c.y.			—
Base material	c.y.			—
Asphalt Class C 6" thick	~~ton~~ S.Y.	3700		
Binder	all	all	L.S.	—
Concrete inlets	each			—
Culvert pipe	lin. ft.			—
Concrete curbs	c.y.			—
				—

*Items include 10% allowance

Total $___
Perm. signing ($100/intersection) ___
Flagging ___
Total $___
Engineering & contingencies (20%) ___
Total $___
City's estimated share of survey ___
TOTAL ESTIMATED COST $___



T 9 S R 1-2 E W.M.

LYONS

LINN COUNTY, OREGON

PREPARED BY THE
OREGON STATE HIGHWAY DIVISION
IN COOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Population 780

Scale in Feet

Revised
September 1973

LEGEND

- FEDERAL AID INTERSTATE SYSTEM
- FEDERAL AID PRIMARY SYSTEM
- FEDERAL AID SECONDARY SYSTEM - STATE
- FEDERAL AID SECONDARY SYSTEM - COUNTY
- OTHER FEDERAL AID SECONDARY - LOCAL
- TERMINATION OF FA SYSTEM
- TERMINATION OF ROUTE
- DIVIDED HIGHWAY
- UNDIVIDED HIGHWAY - NO OF LANES
- STREET OPEN FOR TRAVEL
- STREET DEDICATED BUT NOT OPEN

- INTERSTATE NUMBERED ROUTE (FAI)
- U.S. NUMBERED ROUTE
- STATE NUMBERED ROUTE

- POST OFFICE
- SCHOOL
- CITY CENTER
- R.R. DEPOT
- CITY LIMITS
- PUBLIC BLDG.
- CY CITY HALL
- CT COURT HOUSE
- A ARMORY
- L LIBRARY

— 1962

No County Roads in City 5-15-74

SCA

PROJECT DATA, CITY OF Lyons Date 19 March 1974

To be financed by Special City Allotment Fund and necessary city funds.

Street name 14th & 15th Streets
(Locate project on attached map.)

Project length 14th - 345' 15th 345'

DESIRED STREET SECTION:

Standard roadway; width of travel way: 24' feet, width of shoulders: 6 + 0 feet

Curbed section; width curb to curb: ____ feet

Remarks _____

Surface now in place: Oil ____ Paving X Gravel ____

Present surface width: 24 feet

RIGHT-OF-WAY: (City shall, without cost to State, provide all right-of-way required)

Width of present right-of-way: 60 feet

Additional right-of-way required? Yes ____ No X

State to furnish right-of-way descriptions? Yes ____ No X

Give width of intersecting streets: _____

Are intersecting streets curbed? Yes ____ No X

Remarks No right-of-way required

CONCRETE CURBS: (All new curbs to be constructed at city's expense.)

Now in place Yes ____ No X

Width between present curbs: _____ feet

City to construct curbs? Yes ____ No ____

To be constructed as part of project? Yes ____ No ____

Length of desired radius on curb returns: _____ feet

Does city desire special type of curbs? Yes ____ No ____

Explain: None

RECEIVED
COUNTY & CITY SECTION
MAR 25 1974
☐ ENGR. ☐ COOR. ☑ OE ☐ AE ☑ UE
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SIDEWALKS (All new sidewalks to be constructed at City's expense.)- - - - - -

Are sidewalks now in place? Yes___ No_/_

Present sidewalks, Length: _____feet; Width:_____feet

Distance between present sidewalks: _____feet

Are sidewalks to be constructed as part of project? Yes___ No___

Width of sidewalks to be constructed: _____feet

Are sidewalks to be constructed only on one side of street? Yes___ No___

Are sidewalks to be constructed on both sides of street? Yes___ No___

Give: Length to be constructed and On which side of street

_____feet N.___ S.___ E.___ W.___

_____feet N.___ S.___ E.___ W.___

Should sidewalks be placed against curbs? Yes___ No___

Is utility strip required? Yes___ No___; Width: _____feet

Remarks No Sidewalks

STORM SEWERS -

Now in place? Yes_X_ No___

If yes, are they adequate for increased flow? Yes_X_ No___

Indicate depth of main lines from present surface: _____feet Not known; Ditches East Side.

To be constructed by City? Yes___ No_/_

To be constructed as part of project? Yes___ No_/_

Show location on city map./

SANITARY SEWERS -

Now in place? Yes___ No_/_ NOTE: City to adjust if required./

If yes, indicate depth of sewers from present surface: _____feet

Remarks None

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WATER MAINS: (City to adjust if required.)

Now in place? Yes \ No ___

If yes, how deep from present surface? Approx 4' feet

Remarks _____

_____

DRIVEWAYS: ~~(All driveway construction beyond curb line to be at city's expense.~~)

To be constructed as part of project? Yes ___ No \

Asphaltic concrete? Yes ___ No ___

Portland cement? Yes ___ No ___

How many? _____

Must driveways be Portland cement to comply with city code? Yes ___ No ___

Is there a city ordinance specifying width and number of driveways permitted?
Yes ___ No ___ (If yes, please include copy of ordinance.)

Remarks _____

_____

FRANCHISED UTILITIES: (City is to arrange for any required adjustment.)

Gas lines? Yes \ No ___

Electric poles: Yes \ No ___

Which company? Pacific Power
(NOTE: If city-owned, city to adjust.)

Telephone poles? Yes \ No ___

Which company? Pacific Tel Tel Co.

Railroad tracks? Yes \ No ___

Which company? Southern Pacific

Is crossing presently protected by automatic railroad signals?

Yes ___ No \

Remarks There should be no utility problems for just the re-surfacing

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WORK TO BE DONE BY CITY AS PART OF PROJECT:

Grading? Yes ___ No ___

Clearing? Yes ___ No ___

Base rock? Yes ___ No ___

Concrete curbs? Yes ___ No ___

Driveways? Yes ___ No ___

Remarks None

GENERAL INFORMATION:

Are city finances available? Yes ___ No X

When available? Date _____

Has city established grade on street? Yes ___ No X
(If yes, please include copy of data.)

Please indicate site for disposal of excess excavated material: _____

There should be none.

General remarks: Three streets have crossing trench and are in need of resurfacing

By Kenneth F. Clapperton by Ed Norman
Mayor

By Evelyn F. Magnuson
City Recorder or City Manager

By Joe Rogers
City Engineer

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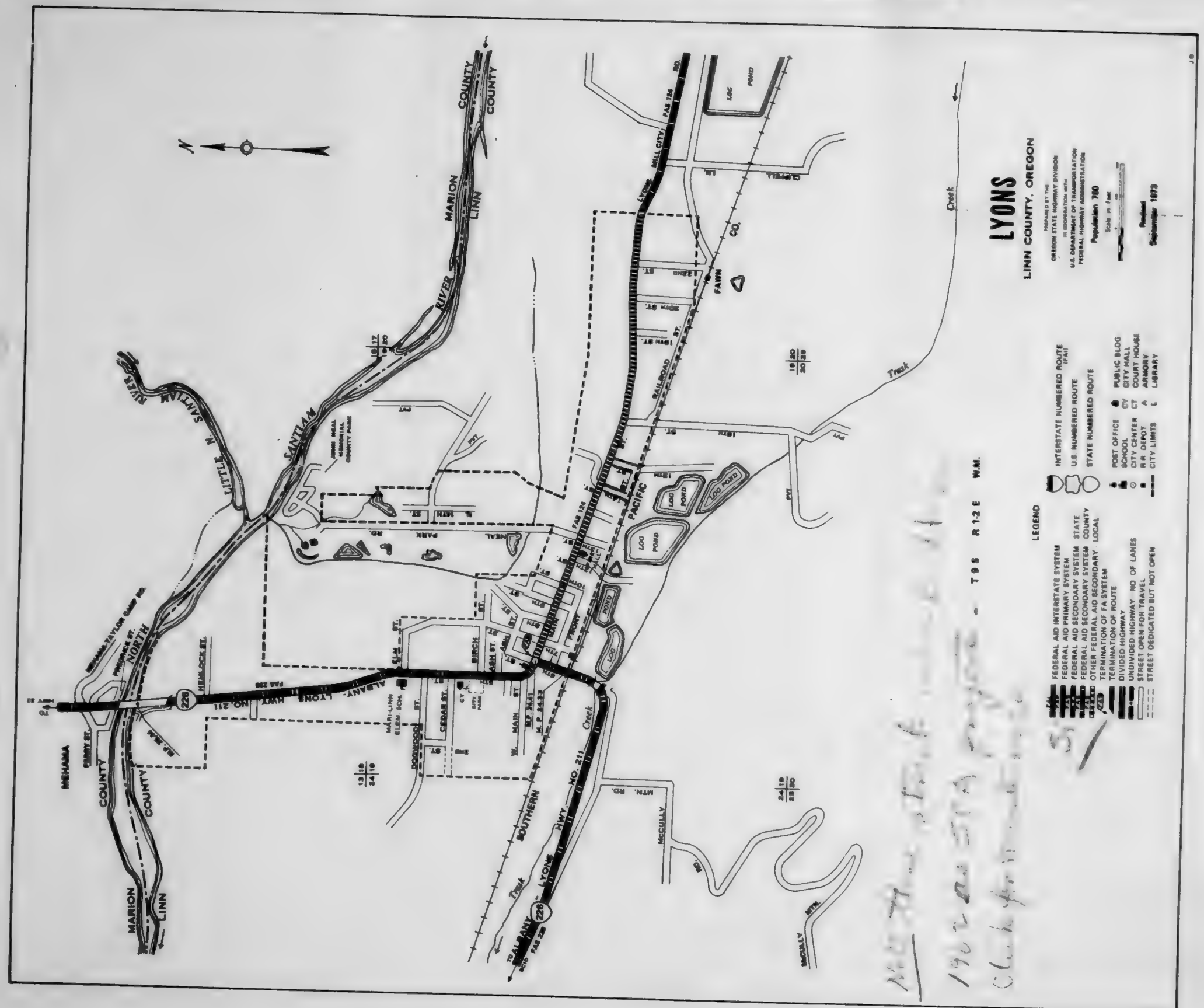

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R E S O L U T I O N

WHEREAS, under the provisions of ORS 366.800 and 366.805 there has been withdrawn from state highway funds appropriated for allocation to the several cities of the State of Oregon the sum of Two Hundred Fifty Thousand and No/100 ($250,000) Dollars, and said sum has been set up in a separate account to be administered by the Oregon Transportation Commission and to be spent each year by said Commission upon streets not a part of the state highway system, within cities, which are receiving excessive wear through sudden increases in population in the area or heavy and unusual traffic; and

WHEREAS, the City of Lyons is an incorporated city of the State of Oregon and has a population of 785 as given by the latest official census; and

WHEREAS, the following streets of said city,

14th Street- From Main St. South to R.R.

15th Street From Main St. South to R.R.

RECEIVED
COUNTY & CITY SECTION
MAR 8 - 1974
☐ ENGR. ☑ CJOR. ☐ DE ☐ AE ☐ UE
☐ UPE ☑ CE ☐ RE ☐ RPE ☐

are not a part or parts of the state highway system, but are streets under the jurisdiction and control of said city which are "receiving excessive wear through sudden increase in population in the area, or heavy and unusual traffic," and

WHEREAS, said streets are and each of them is in need of repair, reconditioning, and other major improvement,

NOW, THEREFORE, the members of the City Council, in regular or special session assembled, do hereby find, declare, and resolve:

1. That the aforesaid named streets of said city are in need of repair, reconditioning, and other major improvement.

2. That said streets are in their present state and condition of disrepair by reason of excessive wear through sudden increases in population in the area, or by heavy and unusual traffic.

3. That the Oregon Transportation Commission hereby is respectfully requested to consider and declare said streets as qualified for reconditioning, repair, and other improvement out of funds allocated and made available by and through the said $250,000 appropriation of state highway revenues which is to be administered and spent by the Transportation Commission.

cc-50, 1959 Rev.)

4. That the City of Lyons does hereby offer to Transportation Commission and does hereby pledge complete cooperation and assistance to the end that said city may share and participate in the use and benefit of said special fund and appropriation; and therefore does designate Mrs. Evelyn L. Marmon, Recorder as the official representative of the city in all negotiations resulting from this request.

Passed and approved this 6 day of March, 1974.

There is attached hereto and made a part hereof, a city map on which is indicated the street, streets, road, or roads described in this resolution.

- - - - - - - - - - - - - - - - - - -

I hereby certify that the foregoing resolution was passed and approved by the City Council of the City of Lyons at a regular ~~or special~~ meeting of said Council, held on the 6 day of March, 1974, and the above copy is a true and correct copy of the original and of the whole thereof.

Dated this 6 day of March, 1974.

Evelyn L. Marmon
City Recorder

-50, 1959 Rev.)

• 8257 Detroit ("D" & Patton Sts.) 1975
• Sec. City Streets
• (Grading and paving)

CIA 5196 1-30-75

OREGON STATE HIGHWAY DEPARTMENT

Date December 10, 1975

ITEMIZED STATEMENT OF COSTS
SPECIAL CITY ALLOTMENT PROJECT

Program Year 1975

Contract # 8257 Prefix 324-1727 Survey Prefix 324-1471

Street "D" Street and Patton Street

City Detroit

Payments to Contractor (see attached voucher)	$23,982.97*
Engineering and Contingencies	719.40
Survey: Total $ 2,112.08 Prorated Share	---
TOTAL	$24,702.37
Agreed State Share	$24,702.37
Agreed City Share	---
City Advance Deposit	---

Reference: Outside Billing none

*Includes $5.61 interest

RU

FISCAL YEAR 75-1

OREGON STATE HIGHWAY DIVISION

Form 81-734-1022 (Rev. 9-72)

DISBURSEMENT VOUCHER

16820

North Santiam Paving Co. P.O. Box A Stayton, OR 97383	VOUCHER DATE 10/2/75	TOTAL AMOUNT $ 1,299.82
Cont. # 8257 Est. # 2F	Principal Interest	$ 1,294.21 5.61
dk		

FOR PAYMENT OF ACCOUNTS INCURRED BY THE STATE HIGHWAY DIVISION BY AUTHORITY OF ORS 366.438

CHECKED - Acctg. Control

Form 81-734-1068

In for Service Rendered or Goods Furnished
OREGON STATE HIGHWAY DIVISION
by

Date October 1, 1975

Invoice No.

P.O. No. Contract 8257

North Santiam Paving Co.
PO Box A
Stayton, OR 97383

This Space

Principal $1,294.21

Interest from 9-24-75 to 10-6-75 inclusive

13 days at $.4314/day = $5.61.

...ACT PAYMENT VOUCHER

HIGHWAY: CITY STREETS

FEDERAL AID PROJECT NO.:

SECTION: DETROIT (D & PATTON STS)

FORM 81-118-1838

NO.	ITEMS	UNITS	UNIT PRICE	QUANTITY TO DATE	AMOUNT TO DATE	PREVIOUS AMOUNT	P
001	9N GENERAL EXCAVATION	LUMP SUM	6000.0000	100.000	6000.00	6000.00	
002	9N AGGREGATE SUBBASE 12 INCHES THICK	SQ YDS	3.0000	1,822.830	5468.49	5460.00	
003	9N 3/4" D AGGREGATE BASE 02 INCHES THICK	SQ YDS	.5500	1,822.830	1002.56	1001.00	
004	9N CLASS C ASPHALT CONCRETE 1 1/2 IN THICK	SQ YDS	2.1000	1,980.610	4159.28	4158.00	
005	9N 12" CULVERT PIPE	LIN FT	13.5000	206.500	2787.75	2700.00	
006	9N CONCRETE INLET TYPE G-1	ONLY	400.0000	1.000	400.00	400.00	
	PRICE AGREEMENT ITEMS						
30101	9N FINAL 1 1/2" AC SURFACING	SQ YD	2.1000	1,980.610	4159.28	4158.00	

GROSS RETAINAGE			
TREASURER DEPOSIT			
# NET RETAINAGE			
	TOTAL CONTRACT ITEMS	23977.36	23877.00
	- % RETAINED ON CONTRACT ITEMS	-	1,193.85
	FORCE ACCOUNT		
	TOTAL PAYMENTS	23,977.36	22,683.15

DATE: 09 23 75 PG. 01 8257

PREVIOUS VOUCHER NO.: 8614

CHECKED BY: JP:dk

ENGINEER OR AUDITOR: W. Mueller

WARRANT NUMBER

VOUCHER

HIGHWAY: CITY STREETS

FEDERAL AID PROJECT NO.:

SECTION: DETROIT (D & PATTON STS)

ITEMS	UNITS	UNIT PRICE	QUANTITY TO DATE	AMOUNT TO DATE	PREVIOUS AMOUNT	PRESENT AMOUNT
VATION	LUMP SUM	6000.0000	100.000	6000.00	6000.00	
BASE 12 INCHES THICK	SQ YDS	3.0000	1,822.830	5468.49	5460.00	8.49
ATE BASE 02 INCHES THICK	SQ YDS	.5500	1,822.830	1002.56	1001.00	1.56
LT CONCRETE 1 1/2 IN THICK	SQ YDS	2.1000	1,980.610	4159.28	4158.00	1.28
IPE	LIN FT	13.5000	206.500	2787.75	2700.00	87.75
T TYPE G-1	ONLY	400.0000	1.000	400.00	400.00	
MENT ITEMS						
C SURFACING	SQ YD	2.1000	1,980.610	4159.28	4158.00	1.28

GROSS RETAINAGE

TREASURER DEPOSIT

NET RETAINAGE

01 8257	TOTAL CONTRACT ITEMS	~~23977.36~~	~~23877.00~~	~~100.36~~
	- % RETAINED ON CONTRACT ITEMS	-	1,193.85	1,193.85
	FORCE ACCOUNT			
	TOTAL PAYMENTS	23,977.36	22,683.15	1,294.21

WARRANT NUMBER

DESCRIPTION OF JOB OR DEPARTMENT	PREFIX	FUNCTION	GR	CURRENT MONTH	FISCAL YEAR TO DATE	GRAND TOTAL TO DATE
ALLSVILLE TN 5TH STT SEC	324 1726	201 00	P		22,268.41	22,268.41
	324 1726	204 00			1,074.04CR	1,074.04CR
	324 1726	900 00		8.68	1,784.75	1,784.75
		** JOB TOTALS **		8.68 **	22,979.12 **	22,979.12
DETROIT RD AND PATTON STS	324 1727	201 00			100.36	100.36
	324 1727	201 00	P		23,877.00	23,877.00
	324 1727	206 00			5.61	5.61
	324 1727	900 00			719.40	719.40
		** JOB TOTALS **		**	24,702.37 **	24,702.37
WILLOW CR BR (HEPPNER)	325 1707	900 00		25,000.00	25,000.00	25,000.00
		** JOB TOTALS **		25,000.00 **	25,000.00 **	25,000.00
LAFAYETTE PTA ST	336 1726	201 00		12,925.75	12,925.75	12,925.75
	336 1726	201 00	P		8,744.00	8,744.00
	336 1726	204 00		437.20		
	336 1726	206 00	P	5.42	5.42	5.42
	336 1726	900 00		184.99	1,018.78	1,018.78
		** JOB TOTALS **		13,553.36 **	22,693.95 **	22,693.95
		MAJOR CLASS 17 TOTALS		67,128.36	228,964.56	360,737.55
VICTORIA BR R W	004 1802	411 00	0			329.56
	004 1802	413 00				7.70
	004 1802	429 00	0			777.45CR
	004 1802	900 00				164.18
	004 1802	900 00	0			639.80
	004 1802	930 00	0			44.38
		** JOB TOTALS **		**	**	408.17
2 CONCRETE PIERS	004 1803	900 00				20,988.82
	004 1803	900 00	0			216,969.72
		** JOB TOTALS **		**	**	237,958.54
GOLDSMITH BRIDGE PRODUCT	004 1804	900 00				22,178.79
	004 1804	900 00	J	2,249.00		
	004 1804	900 00	0	78.00		78.00
	004 1804	901 00				3,072.29
		** JOB TOTALS **		** 2,327.00 **		462.60
VICTORIA BR STEEL SUPPORT	004 1805	201 00	0			25,791.28
	004 1805	209 00	0		10,203,743.11	
	004 1805	269 00	0			.6
	004 1805	269 02	0			1,442.78
	004 1805	274 00	0			338.44
	004 1805	279 01	0			5,219.78
						2,051.69

12-16-75

8257

N FIFTH ST (ALMSVILLE)	324	1470	901	(A)		3 07		1 082 70		1.082 70
	324	1470	905	00		81 57		729 70		729 70
	324	1470	910	(A)		38 75		667 96		667 96
	324	1470	914	(A)		2 25		2 25		2. 25
	324	1470	920	(A)		29 75		29 75		29 75
	324	1470	921	00		70 78		71 14		71. 14
			** JOB TOTALS **			185 39	**	2 583 50	**	2. 583 50
O ST & PATTON ST (DETROIT)	324	1471	900	(A)		72		72		72
	324	1471	901	00		91 76		850 16		850 16

(7-75)

TO DATE JOB COST SUMMARY

JUNE 1975 PAGE 481

DESCRIPTION OF JOB OR DEPARTMENT	PREFIX		DIVISION	OR	CURRENT MONTH		YEAR TO DATE		UNPOSTED ITEMS	
	324	1471	905	(A)		19 11		79 43		36 43
	324	1471	907	(A)		36		36		36
	324	1471	910	(A)		12 67		306 90		306 90
	324	1471	914	(A)		75		75		75
	324	1471	920	(A)		30 81		30 81		30 81
	324	1471	921	(A)		92 22		165 05		165 05
			** JOB TOTALS **			287 67	**	2 112 08	**	2. 112. 08
[illegible] STREET (MT PROSPECT)	324	1472	901	(A)		5 91		2 123 46		2. 123 46
	324	1472	905	(A)		242 [illegible]		684 12		684 12
	324	1472	910	(A)		14 53		244 67		244. 67
	324	1472	914	(A)		25		25		25
	324	1472	921	(A)		100 71		100 71		100 71
	324	1472	923	(A)		21		74 20		74 20
			** JOB TOTALS **			391 91	**	3 227 41	**	3 227 41
[illegible] (OLD 8TH ST)	326	1475	295	(A)				159 68		159 68
	326	1475	295	(A)				159 68 R		159 68
	326	1475	901	(A)		4 81		75 78		2. 420 55
	326	1475	905	(A)		20		5 65		644 46
	326	1475	910	(A)				70 66		170 77

8257

September 29, 1975

Insurance Co. of North America
P. O. Box 7985
San Francisco, CA 94120

Gentlemen:

On September 22, 1975, we wrote to you concerning release of final payment on Contract No. 8257 awarded to North Santiam Paving Company for work on D and Patton Streets in Detroit in Marion County.

Final payment on this contract is $1,294.21 and the total contract amount is $23,977.36. No work was performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

ser

cc North Santiam Paving Co.
P. O. Box A
Stayton, OR 97383

bc C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
C. O. Fredrickson

8257

B

Salem, Oregon
August 4, 1975

Request Contract Acceptance

R. D. Church
Contract Payments Engineer

C. T. Keasey
Construction Engineer

Contract 8257, Work Completed 7-28-75

Project Detroit ("D" & Patton Sts.)

Highway City Street

County Marion

We request you return a signed copy of this letter indicating acceptance or list conditions that would prevent your acceptance of the contract work.

Acceptance Date_____

Conditions not acceptable:

Construction Engineer

cc: Don Harwell
J. R. Oakes
Virgil Boyd
John Jenkins
D. L. Trout

8257

FORM E-1 (REV. 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

B

NAME OF JOB: DETROIT ("D" & PATTON STS.)	SECTION: DETROIT ("D" & PATTON STS.)	WEEK ENDING: JULY 25, 1975
		SECTION PREFIX: 324-1727
	HIGHWAY: CITY STREETS	COUNTY: MARION
	KIND OF WORK: GRADING & PAVING	
CONTRACTOR: NORTH SANTIAM PAVING CO.	CONTRACT NUMBER: 8257	FEDERAL AID PROJECT NUMBER: STATE
DATE OF CONTRACT: JULY 1, 1975	DATE WORK STARTED: JULY 14, 1975	ESTIMATED COMPLETION DATE: JULY 31, 1975
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 5 SUPERVISION: 1	SPECIFIED WORK DAYS	WORK DAYS USED
	SPECIFIED CALENDAR DAYS 75	CALENDAR DAYS USED 0
PROJECT AUTHORIZATION: $ 23,976.30	SPECIFIED COMPLETION DATE	PERCENT OF TIME ELAPSED: 0
EXCLUSIVE OF ENGINEERING: $ 21,882.30	ENGINEERING AUTHORIZATION $ 2,094.00	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 99
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $ 24,365.13	ENGINEERING COST TO DATE $ 634.87	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 99
ESTIMATED PERCENT: OVERRUN / UNDERRUN +11 %	PERCENT OF AUTHORIZATION 30.32%	DATE PROJECT WAS COMPLETED:

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE.	MAT'L. PROD.		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK: 2 rollers, 1 paver, 4 trucks

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY 20	Clear	0		
MONDAY 21	Clear	0		
TUESDAY 22	Clear	0		
WEDNESDAY 23	Clear	0		
THURSDAY 24	Clear	0		
FRIDAY 25	Clear	0		
SATURDAY 26	Clear	0		

Keasey Bond Jackmond Harwood Johnsen Walker Ruding Richards Glenn Berg

RECEIVED
JUL 30 1975
CONSTRUCTION SECTION

BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK	
SUNDAY 20	No Activity
MONDAY 21	Contractor paved top 1½" AC lift as per city's request under PA #1.
TUESDAY 22	No Activity
WEDNESDAY 23	No Activity
24 THURSDAY	No Activity
FRIDAY	Activity
SATURDAY 26	Contractor completed catch basin and shoulder work.

REMARKS

Project complete except for minor cleanup.

SIGNED Warren E. Mueller
WARREN E. MUELLER

LOCATION SALEM

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP°F216

HEETS
Typical Section

INARY COPY
R 2 2 1975
T TO CHANGE
DESIGN UNIT

OREGON STATE HIGHWAY DIVISION

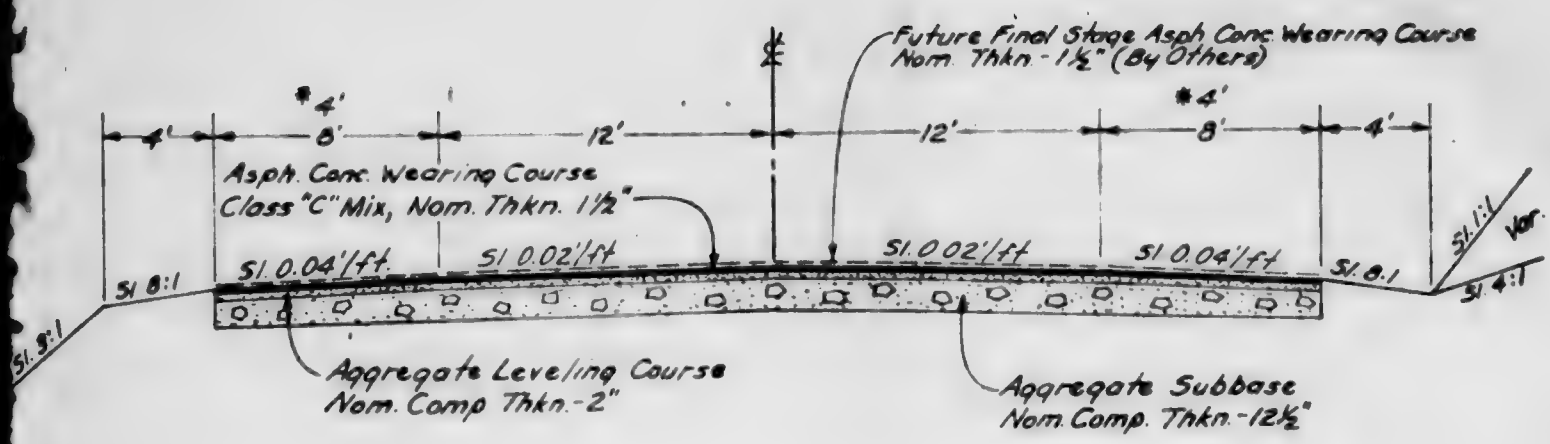
DETROIT ("D" & PATTON STS.) SEC.
CITY STREETS
MARION COUNTY

SHEET No. 1

FED ROAD Div. No.	STATE	PROJECT NUMBER	DATE	TOTAL SHEETS
10	OREGON	STATE		

TYPICAL SECTION

STA. "P$_A$" 13+00 To STA. "P$_A$" 13+10



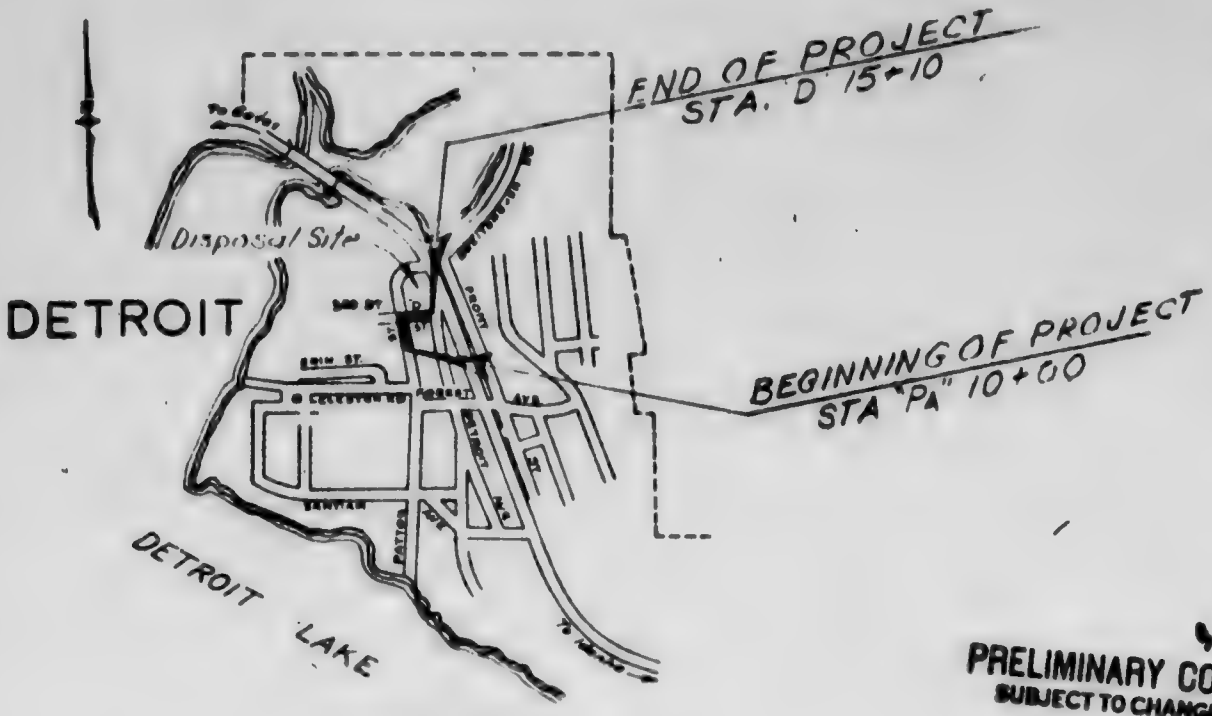
* STA. "P$_A$" 10+00 To STA. "P$_A$" 11+00 (Taper Section)
* "P$_A$" 11+00 To "P$_A$" 13+10
"D" 12+77 To "D" 15+10

PLATE 2

Erikson - Hornschuch - Hoger

5-29-75

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Sketch Map, Summary, Typical Se
2	Plan & Profile



Sketch Map

PRELIMINARY COPY
SUBJECT TO CHANGE

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APR 2 2 197
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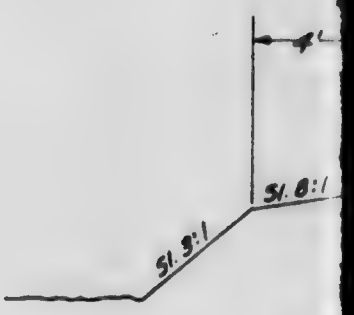
FINAL DESIGN UN



APPROVED
CITY OF Detroit
BY ~~MAYOR~~ STREET COMMISSIONER
BY RECORDER
DATE 5/29/75

5-29-75
Talked to Layman in regards to Connection to Lot 1 Drainage to be to Parcel 1 Lot 1 Dr. Now existing Pt. Sta 14+50. Now Culvert not noted on plans. Plan Culvert across 3rd Str. needs to be replaced. Talked to Design Location data Sent from to field. Told Layman to Check. (4)

8057

R

OREGON STATE HIGHWAY DIVISION

HIGHWAY BUILDING • SALEM, OREGON • 97310

TO Transportation
~~Oregon State Highway Commission~~
~~xxxxxxxxxx~~

DATE June 18, 1975

FROM F. B. Klaboe
State Highway Engineer

SUBJECT Footpaths and Bicycle Trails
June 5, 12, 19 and 26 Bid Lettings

Bids were taken June 5, 12, 19 and 26 on the following projects. This is an informational report to document the Highway Division's action taken with regard to establishing footpaths and bicycle trails on those projects as set forth in Oregon Laws 1971, Chapter 366.

June 5 Bid Letting:

1. Pacific Highway East U'Xing-N. Columbia Boulevard
Pacific Highway, Multnomah County

Grade, Pave, Sign and Illumination Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout the section.

2. Rowena-The Dalles
Columbia River Highway, Wasco County

Grade, Pave, Sign and Illumination Project

Same as No. 1.

3. Hilgard-LaGrande
Old Oregon Trail Highway, Union County

Grade, Pave and Sign Project

Same as No. 1.

4. McVay Highway at Pacific Highway O'Xing
McVay Highway, Lane County

Signal Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

5. Oregon Coast Highway at W. Devils Lake Road
Oregon Coast Highway, Lincoln County

Grade and Pave Project

Bicycle trails will not be included as the project consists of minor grading and surfacing to obtain a left-turn refuge. Four-foot shoulders will be provided throughout the project.

6. N. W. Elks Drive-N. W. Conifer Boulevard (Corvallis)
Pacific Highway West, Benton County

Grade and Pave Project

Same as No. 1, except that 6-foot shoulders will be provided.

7. Poormans Creek Bridge
Jacksonville Highway, Jackson County

Grade, Pave and Structure Project

Same as No. 1, except that 4-foot shoulders will be provided.

June 12 Bid Letting:

1. W. Marquam Interchange-N. Tigard Interchange
Pacific Highway, Multnomah County

Grade, Pave, Sign and Illumination Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout the project.

2. S. W. Clay Street-S. W. Sheridan Street
Pacific Highway West, Multnomah County

Roadside Improvement Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

3. Link River-Bisbee Street
Klamath Falls-Lakeview Highway, Klamath County

Paving Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Five-foot sidewalks exist.

4. Smith Point (Astoria)
Oregon Coast Highway, Clatsop County

Roadside Improvement Project

Same as No. 2.

5. Interstate Avenue Grade Separation
Pacific Highway West, Multnomah County

Guardrail Project

Same as No. 2.

June 19 Bid Letting:

1. Bellevue Street S. E.-Mission Street S. E. (Salem)
FAUS 1555, Marion County

Grade, Pave, Structure and Illumination Project

An 8-foot Class II bikeway will be provided.

2. Chehalem Creek (Newberg)
Pacific Highway West, Yamhill County

Grade, Pave and Structure Project

Five-foot sidewalks will be provided.

3. Sharps Corner-Diagonal Road
Columbia River Highway, Umatilla County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Four-foot shoulders will be provided.

4. Jordan Valley-Jordan Creek
I.O.N. Highway, Malheur County

Grade and Pave Project

Same as No. 3.

5. Hogback Summit-Lake Abert
Lakeview-Burns Highway, Lake County

Grade and Pave Project

Same as No. 3.

6. S. Fork Big Butte Creek (Butte Falls) Bridge
FAS 15-101, Jackson County

Structure Project

Same as No. 3.

7. Middle Fork Malheur River (Acton Bridge)
FAS 458, Harney County

Grade, Base and Structure Project

Same as No. 3, except that 2-foot shoulders will be provided.

8. McMinnville-Willamina-Sheridan Area Safety Projects
Pacific Highway West and Salmon River Highway
Polk and Yamhill Counties

Attenuators, Guardrail and Sign Projects

Footpaths or bicycle trails are not incorporated

in this project as no new highway construction, reconstruction or relocation is involved.

9. Simpson Creek
Corvallis-Newport Highway, Lincoln County

Grade, Pave and Culvert Project

Same as No. 3.

10. Daisy Street-SPRR (Springfield)
Springfield-Creswell Highway, Lane County

Grade and Pave Project

An 8-foot, Class I or Class II bikeway will be provided.

11. Aumsville (N. Fifth Street)
City Street, Marion County

Grade and Pave Project

Four-foot sidewalks will be provided.

June 26 Bid Letting:

1. Winchester Interchange-Garden Valley Boulevard
Pacific Highway, Douglas County

Grade, Pave and Sign Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Ten-foot shoulders are available throughout this section.

2. Motorist Service Signing Project, S. Unit
Pacific Highway, 3 Counties

Signing Project

Footpaths or bicycle trails are not incorporated in this project as no new highway construction, reconstruction or relocation is involved.

3. Motorist Service Signing Project, N. Unit
Pacific Highway, 6 Counties

Signing Project

Same as No. 2.

4. Motorist Service Signing Project
Columbia River Highway, 9 Counties

Signing Project

Same as No. 2.

5. N. E. Union Avenue-N. E. 92nd Avenue
Columbia River Highway, Multnomah County

Grade and Pave Project

Footpaths and bicycle trails will not be established under this project as per ORS Chapter 366, Section 2, subsection 2(b), which states that "Footpaths and trails are not required to be established...if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use". Non-motorized vehicles are prohibited throughout this section.

6. S. W. 72nd Avenue Interchange-S. W. Boones Ferry Road
Beaverton-Tigard, Pacific and FAS 943 Highways
Washington and Clackamas Counties

Grade and Pave Project

An 8-foot Class I bikeway will be provided.

7. Five Corners-Lakeview and Hunters Lodge Road-Lakeview
Klamath Falls-Lakeview and Fremont Highways, Lake County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders or 5-foot sidewalks in curbed areas are available.

8. Lyons (14th and 15th Streets)
City Street, Linn County

Paving Project

Same as No. 1, except that two 12-foot paved travel lanes and 6-foot gravel shoulders will be provided.

9. Veneta (Second Street)
City Street, Lane County

Grade and Pave Project

Same as No. 1, except that 8-foot shoulders will be provided.

10. Detroit (D and Patton Streets)
City Streets, Marion County

Grade and Pave Project

Same as No. 1, except that 4-foot shoulders will be provided.

11. Rooster Rock State Park
Multnomah County

Beach Restoration and Erosion Control Project

Same as No. 2.

bc C. W. Head
G. M. Baldwin
A. E. Johnson
E. S. Hunter
R. L. Schroeder
D. G. Talbot
L. E. George
Victor D. Wolfe
Gary Sund
Jack Graham

WHW:mc ja

Robert W. Straub

May 15, 1975

Ms. Ruth Thomasson
City Recorder
City Hall
Detroit, Oregon 97342

Dear Ms. Thomasson:

Enclosed are two sets of preliminary plans for the 1975 Special City Allotment project on "D" and Patton Streets. Please have the proper officials review and, if they approve, return one set with your approval noted thereon.

Construction of a 40-foot wide street, as shown on these preliminary plans, is currently estimated to cost $23,500. This amount would be covered by the State's SCA fund.

Recommended changes you suggest should reach this office by June 1, 1975 to permit any revisions to be made on the plans before they reach the bidders.

Very truly yours,

Richard Unrein
Urban Engineer
County-City Unit

FFH:scr

Enclosure

5-22-75
Talked to Layman in regards to Cutting down 8' shields to 4'. okod this. Also said Culvert across third Street should be replaced. This info to Design Room.

☑ ENGR. ☐ ASST. ☑ OE ☐ AE ■ UE
☑ UPE ☐ CE ☐ RE ☐ RPE ☐

Roads
1975

Salem, Oregon

March 12, 1975

Mr. P. L. Carstensen
Location Section
B U I L D I N G

Richard Unrein
Urban Engineer
County-City Unit

1975 SCA Projects
North Fifth Street
City of Aumsville
"D" and Patton Streets
City of Detroit
14th and 15th Streets
City of Lyons

The survey data on the subject sections has been examined and found to be consistent with the projects as requested by the cities and approved by the Transportation Commission.

The field estimate of $41,686 for the Aumsville project exceeds the funds available by approximately $6,000. The City is financially capable of participating in a project not to exceed $36,000 and the design will require revision to match the available financing.

Alternate 1 should be incorporated into the design of the Detroit project as this will most likely be more acceptable to the City.

CES:scr

Attachment

cc: J. H. Versteeg
CC O. Fredrickson, Region 2 Engineer

☑ ENGR. ☐ ASST. ☐ OE ☐ AE ■ UE
■ UPE ☑ CE ☐ RE ☐ RPE ☐

NARRATIVE REPORT

CITY OF DETROIT

"D" AND PATTON STREETS

PURPOSE OF SURVEY

The purpose of the survey was to prepare plans, specifications and an estimate of cost to grade, surface and pave "D" St. for about a block between Detroit Ave. and Patton Streets. Plus approximately a block of Patton St. from the intersection with "D" St. to where the county has previously paved.

ALIGNMENT AND GRADES

There has been a recent Subdivision Survey from which enough property corners are in existence that the street center lines could be accurately determined. The main problem is that there is a difference in Right of Way widths on Patton St. where the subdivision ends. This happens to be the end of the county paving and the end of our work. At this location, the existing pavement is virtually all on one side of the Right of Way. Our solution to the problem was to come in squarely at this point and taper the wide side into the existing ahead in about a hundred feet. We showed Mr. King, the mayor of Detroit, the conditions and he was in agreement with our approach.

The Grades are basically controlled by the street intersections & adjacent terrain. We have made a better connection at "D" & Detroit Streets where "D" now breaks sharply off Detroit. This has been accomplished by using a small vertical curve to allow a better landing approach to Detroit. This has increased the grade of "D" Street to a 4% from the approximate 3% now in existence

DRAINAGE

The existing drainage runs down both sides of "D" Street toward Patton. The Westerly side is supposed to cross "D" where it joins that coming down the Easterly side and runs Southerly parallel to Patton. There is a pipe beginning on the Easterly side of Patton roughly a hundred feet from "D" Street. This pipe then carries the water away to beyond the end of the project.

The drainage on the Westerly side of Patton is at present in a ditch which will carry the water toward Third Street. This ditch, originally was supposed to run Southerly but has been fitted up by the shop to the South.

The future drainage caused by this project will have the same basic pattern. We will create new ditches along side "D" Street to where a pipe may be brought across this Street before it intersects Patton. The pipe running parallel to Patton will have to be adjusted outward from the catch inlet Northerly to the Intersection of Patton & "D" Streets.

At this point, it appears as though we will have to install a Catch Inlet or a small Manhole such that the pipe cossing "D" may join the pipe running parallel to Patton and also provide for a short run up "D" Street to pick up the ditch in the Easterly side.

The reason for this is the Right of Way restriction and the Radius for the pavement edge transition from "D" to Patton Streets.

In order for the estimate to stay inside the money limits. This work will have to be done by the City. The general plan has been discussed with Mr. King who has said they will do what ever work is necessary. In the Westerly side of Patton Street, the ground generally falls away and our plan is to let the surface water fall away as it wants without installing a new ditch. One could be constructed if necessary but it would be on an adverse grade to the roadway.

SURFACING DESIGN

Our initial design was to follow that set forth in the job request, this calling for 12 inches of crushed base and 3 inches of A/C. The cost of doing the work under this design is $ 29,300.00 far in excess of the allowable funds. Again, checking with Clarence Gregg, we have an alternate which proposes the use of 12½ inches of Aggregate Sub Base - 2 inches leveling course and 1½ inches of the Class C modified paving mixture.

The Broad Band Specifications for this are as follows:

Pass ¾ - 100%

Pass ½ - 95-100%

Pass ¼ - 51-71 %

Pass # 10 - 10-20 %

Pass # 200 - 2-6 % (Including ½ to 1½ % Portland Cement Additive)

Asphalt - 4-9 %

This will reduce the Cost of the project materially and provide the flexibility for the pavement which appears desireable under these conditions.

An item which could be considered during Construction would be the Salvaging of the Existing Surfacing where the new Grade was high enough that the bottom of the existing rock was at or below subgrade. This would reduce both the excavation and the Aggregate Subbase material needed.

Care would have to be excersized to determine that the quality of the existing base was reasonably good.

BID ITEMS

The bid items appear to be standard with the possible exception of Class "C" A/C.

We have made our estimate on the basis of the mixture including the Asphalt.

To maintain control of the asphalt content I would suggest that we call for a high percentage of Asphalt (say 7%) as a basis for bidding with the provisions for adjustment if the actual percentage used varied from this by more than 1% either way. The percentage of Asphalt used would be determined by the normal Rotarex extraction process.

Removal of a large Fir tree at the cormer of "D" & Patton has been included in the estimate for Removal of Structures and Obstructions.

Also included in this item is the removal of the existing 12" Culverts at "D" & Patton Street, as shown on the detail map.

LOCATION CO[illegible] ESTIMATE AND QUA[illegible]

SECTION "D" & Patton Sts. (Detroit) UNIT OR PART * ALTERNATE I Sheet 1 of 1

HIGHWAY City Sts. PREFIX 324-1971 COUNTY Marion

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	AMOUNT
		* Surface Design: 12" Agg. base, 2" level course, 1½" Mod. Class "C" A.C.				
1	110	Mobilization	Lump Sum	All	-	1,667
2	111(a)	Temp. Prot & Direct. Traffic	Lump Sum	All	-	500
3	111(b)	Temporary Signs	Sqr. Ft.	132	9.00	1,188
4	111(c)	Temporary Barricades	Each	7	100.00	700
5	111(e)	Flagmen	Hour	40	11.00	440
6	202	Removal of Structs. & Obstructs.	Lump Sum	All	-	200
7	203	General Excavation	Cu. yd.	461	2.60	1,199
8	222	Finishing Roadbed & Slopes	Lump Sum	All	-	150
9	233	Watering	M-Gals	30	5.00	150
10	304(a)	Aggregate Subbase	Cu. yd.	1,150	4.00	4,600
11	304(c)	1"-0 Aggregate Base	Cu. yd	195	9.50	1,852
12	402	Class "C" Asphaltic Concrete	Ton	220	23.00	5,060
13	405	Asphalt in Prime Coat	Ton	3	150.00	450
14	409	3/4"-0 Agg. in Prime Coat	Cu. yd.	17	10.00	170
			Total Contract Items			12,326
		Engineering & Contingencies	(20%)			2,465
			Est. Total Cost			21,991

LOCATION COST ESTIMATE AND [illegible] SUMMARY

SECTION "D" & Patton Sts. (Detroit) UNIT OR PART * SITE - PLATE I Sheet 1 of 1

HIGHWAY City Sts. PREFIX 324-1471 COUNTY Marion

ITEM NO.	SPEC. NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	AMOUNT
		*Surface Design: 12" agg. base,	3" A.C.			
1	110	Mobilization	Lump Sum	All	-	2,344
2	111(a)	Temp. Prot. & Direct. Traffic	Lump Sum	All	-	500
3	111(b)	Temporary Signs	Sqr Ft	132	9.00	1188
4	111(c)	Tempriary Barricades	Each	7	100.00	700
5	111(d)	Flagmen	Hour	40	11.00	440
6	202	Removal of Structs. & Obstruct.	Lump Sum	All	-	200
7	203	General Excavation	Cu. Yd.	461	260	4199
8	222	Finishing Roadbed & Slopes	Lump Sum	All	-	150
9	233	Watering	M-Gals	30	5.00	150
10	304(c)	1"-0 Aggregate Base	Cu. Yd.	1020	9.50	9690
11	402	Class "C" Asphalt Concrete	Ton	374	23.00	8602
12	408	Asphalt in Prime Coat	Ton	3	150.00	450
13	408	3/4"-0 Aggregate in Prime Coat	Cu. Yd.	17	10.00	170
			Total Contract Items			25,783
		Engineering & Contingencies (20%)				5157
			Est. Total Cost			30,940

8557

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January 30, 1975

City of Detroit
City Hall
Detroit, OR 97342

Attention: Ruth Thomasson
City Recorder

MISC. CONTRACTS and
AGREEMENTS No. 5196

Gentlemen:

Attached for your records is a fully executed copy of an agreement covering improvement of "D" and Patton Streets from Detroit Avenue to approximately 300 feet south of "D" Street.

We have retained a fully executed copy of this agreement for the Transportation Commission's files.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

Att.

cc Don Harwell (agree. att.)

SCA

PROJECT DATA, CITY OF DIXON Date MAY 28, 74

To be financed by Special City Allotment Fund and necessary city funds.

Street name "D" St. Patton Rd
(Locate project on attached map.)

Project length 400'

DESIRED STREET SECTION:

Standard roadway; width of travel way: 24 feet, width of shoulders: 8 feet

Curbed section; width curb to curb: ____ feet

Remarks _____

Surface now in place: Oil ____ Paving ____ Gravel X

Present surface width: 20 feet

RIGHT-OF-WAY: (City shall, without cost to State, provide all right-of-way required)

Width of present right-of-way: 60 feet

Additional right-of-way required? Yes ____ No X

State to furnish right-of-way descriptions? Yes ____ No ____

Give width of intersecting streets: _____

Are intersecting streets curbed? Yes ____ No X

Remarks _____

CONCRETE CURBS: (All new curbs to be constructed at city's expense.)

Now in place' Yes ____ No X

Width between present curbs: _____ feet

City to construct curbs? Yes ____ No ____

To be constructed as part of project? Yes ____ No ____

Length of desired radius on curb returns: _____

Does city desire special type of curbs? Yes ____ No ____

Explain: _____

RECEIVED
COUNTY & CITY SECTION
JUN 17 1974
ENGR. COOR. OE AE UE
CE RE RPE

SIDEWALKS (All new sidewalks to be constructed at City's expense.)- - - - - -

Are sidewalks now in place? Yes___ No X

Present sidewalks, Length: _____feet; Width:_____feet

Distance between present sidewalks: _____feet

Are sidewalks to be constructed as part of project? Yes___ No X

Width of sidewalks to be constructed: _____feet

Are sidewalks to be constructed only on one side of street? Yes___ No___

Are sidewalks to be constructed on both sides of street? Yes___ No___

Give: Length to be constructed and On which side of street

_____feet N.___ S.___ E.___ W.___

_____feet N.___ S.___ E.___ W.___

Should sidewalks be placed against curbs? Yes___ No___

Is utility strip required? Yes___ No___; Width: _____feet

Remarks_____

STORM SEWERS -

Now in place? Yes___ No X

If yes, are they adequate for increased flow? Yes___ No___

Indicate depth of main lines from present surface: _____feet

To be constructed by City? Yes___ No___

To be constructed as part of project? Yes___ No X

(Show location on city map.)

SANITARY SEWERS -

Now in place? Yes___ No X (NOTE: City to adjust if required.)

If yes, indicate depth of sewers from present surface: _____feet

Remarks_____

WATER MAINS: (City to adjust if required.)

Now in place? Yes X No ___

If yes, how deep from present surface? 1½ feet

Remarks _____

DRIVEWAYS: ~~(All driveway construction beyond curb line to be at city's expense.)~~

To be constructed as part of project? Yes X No ___

Asphaltic concrete? Yes X No ___

Portland cement? Yes ___ No ___

How many? 2

Must driveways be Portland cement to comply with city code? Yes ___ No X

Is there a city ordinance specifying width and number of driveways permitted?
Yes ___ No X (If yes, please include copy of ordinance.)

Remarks _____

FRANCHISED UTILITIES: (City is to arrange for any required adjustment.)

Gas lines? Yes ___ No X

Electric poles? Yes X No ___

Which company? Consumers Power
(NOTE: If city-owned, city to adjust.)

Telephone poles? Yes X No ___

Which company? Continental Telephone

Railroad tracks? Yes ___ No X

Which company? _____

Is crossing presently protected by automatic railroad signals?

Yes ___ No ___

Remarks _____

WORK TO BE DONE BY CITY AS PART OF PROJECT:

Grading? Yes ___ No X

Clearing? Yes ___ No X

Base rock? Yes ___ No X

Concrete curbs? Yes ___ No X

Driveways? Yes ___ No X

Remarks _____

GENERAL INFORMATION:

Are city finances available? Yes ___ No X

When available? Date _____

Has city established grade on street? Yes ___ No X
(If yes, please include copy of data.)

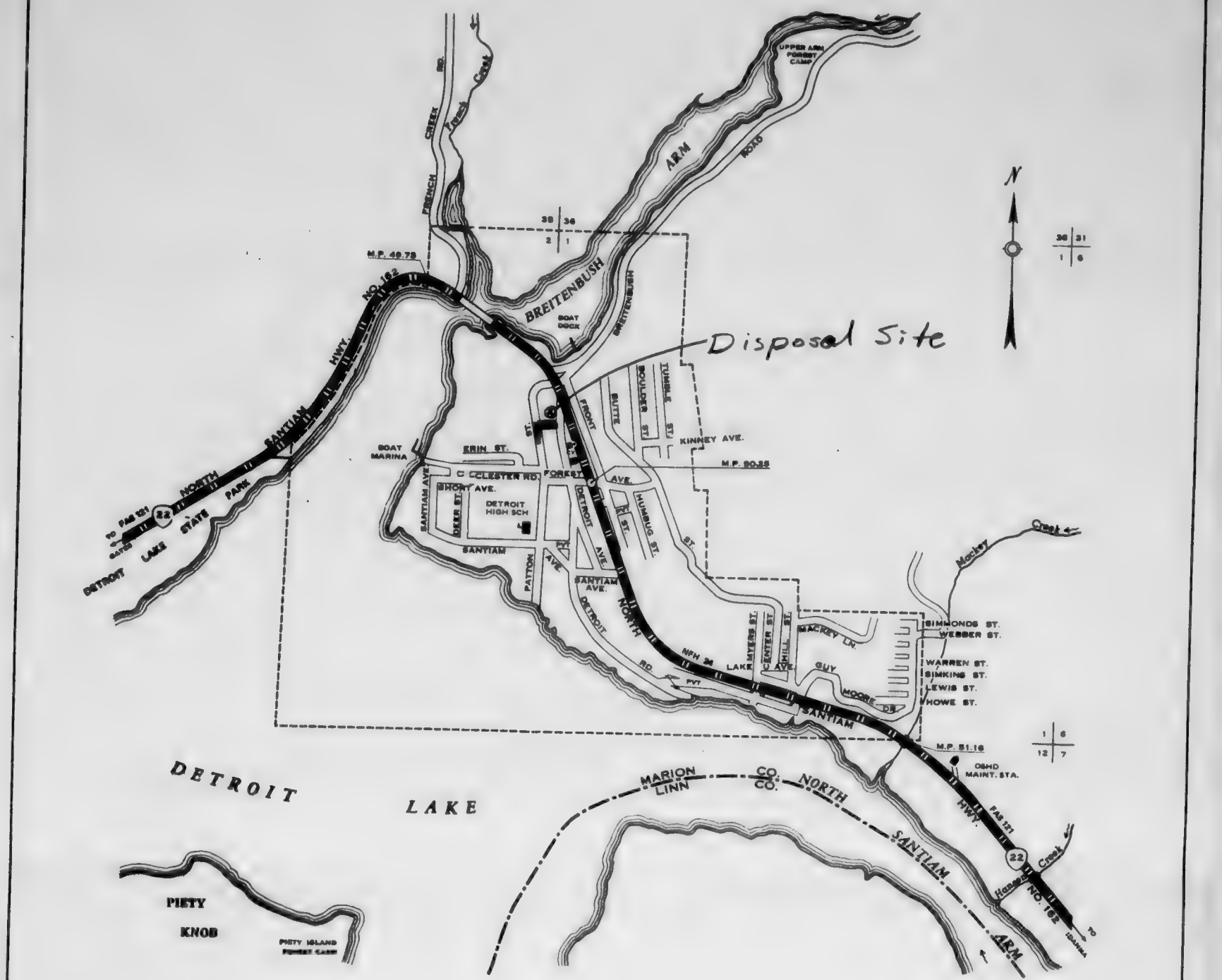
Please indicate site for disposal of excess excavated material: yes

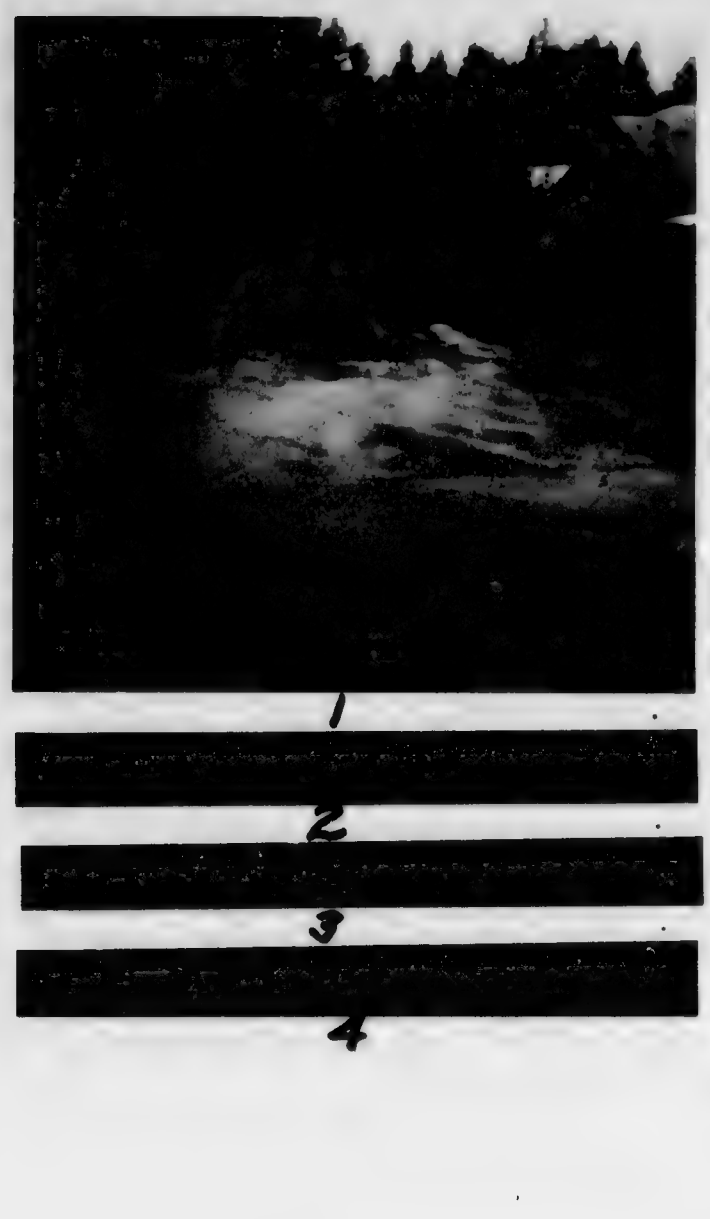
General remarks: _____

By _____ Mayor

By Ruth Thomason, City Recorder
City Recorder or City Manager

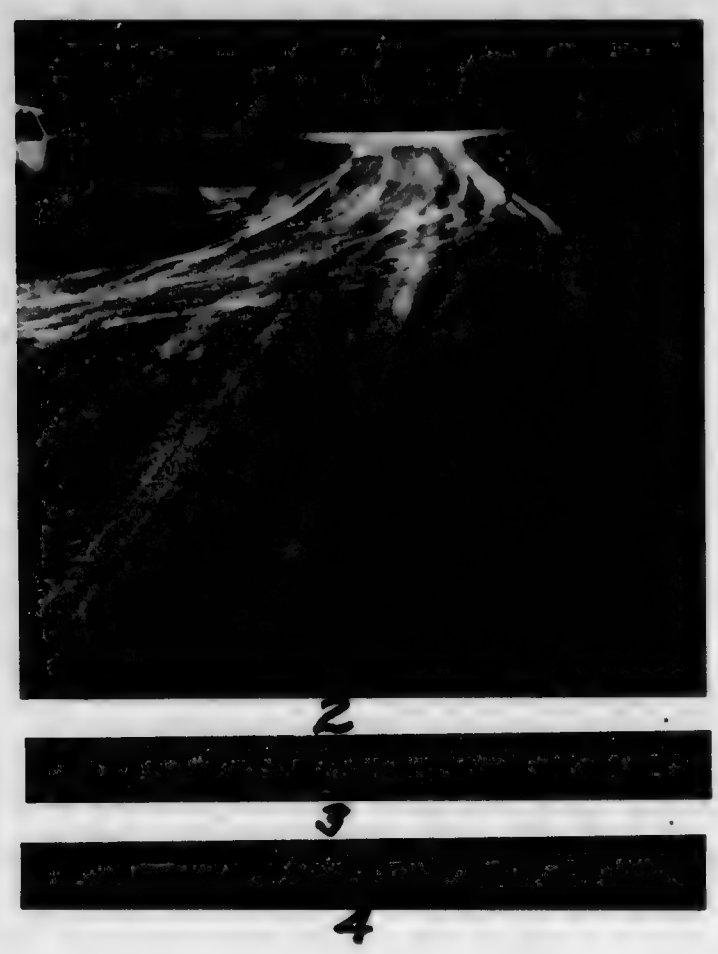
By Robert F. Taylor
~~City Engineer~~
STREET COMMISSIONER


Disposal Site
N
UPPER ARM FOREST CAMP
ARM ROAD
FRENCH CREEK Rd.
French Creek
BREITENBUSH
BREITENBUSH HIGHWAY
BOAT DOCK
M.P. 49.79
NO. 162
HWY.
SANTIAM
NORTH
STATE PARK
LAKE
DETROIT
TO FM 151
GATES
BOAT MARINA
ERIN ST.
CELESTER RD.
FOREST AVE.
FRONT ST.
BUTTE
BOULDER ST.
TUMBLE ST.
KINNEY AVE.
M.P. 50.28
SHORT AVE.
DEER ST.
DETROIT HIGH SCH
SANTIAM AVE.
PATTON AVE.
DETROIT AVE.
HUMBUG ST.
MACKEY LN.
Mackey Creek
SIMMONDS ST.
WEBBER ST.
WARREN ST.
SIMKINS ST.
LEWIS ST.
HOWE ST.
MYERS ST.
CENTER ST.
HILL ST.
GUY
MOORE DR.
NFH 24
LAKE
RD.
FVT
M.P. 51.16
OSHD MAINT. STA.
MARION CO.
LINN CO.
NORTH SANTIAM HWY.
FAS 121
22
Hamilton Creek
NO. 162
TO IDANHA
ARM
DETROIT LAKE
PIETY KNOB
PIETY ISLAND FOREST CAMP
T 9-10 S R 5-6 E W.M.
LEGEND
FEDERAL AID INTERSTATE SYSTEM
FEDERAL AID PRIMARY SYSTEM
FEDERAL AID SECONDARY SYSTEM - STATE
FEDERAL AID SECONDARY SYSTEM COUNTY
OTHER FEDERAL AID SECONDARY - LOCAL
TERMINATION OF FA SYSTEM
TERMINATION OF ROUTE
DIVIDED HIGHWAY
UNDIVIDED HIGHWAY - NO. OF LANES
STREET OPEN FOR TRAVEL
STREET DEDICATED BUT NOT OPEN
INTERSTATE NUMBERED ROUTE (PAI)
U.S. NUMBERED ROUTE
STATE NUMBERED ROUTE
POST OFFICE
SCHOOL
CITY CENTER
R.R. DEPOT
CITY LIMITS
PUBLIC BLDG
CITY HALL
COURT HOUSE
ARMORY
LIBRARY
DETROIT
MARION COUNTY, OREGON
PREPARED BY THE
OREGON STATE HIGHWAY DIVISION
IN COOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Population 340
Scale in Feet
Revised November 1973



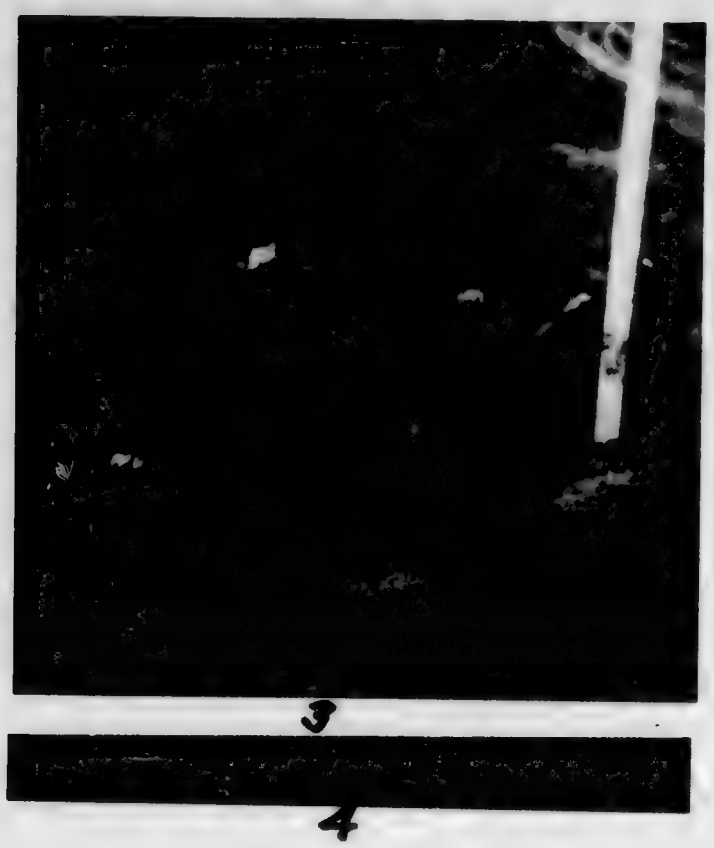
TYPICAL Views
Detroit - 5-24-74 (1775:A)

1 Looking Wly on Santiam Ave from N. Santiam Hwy
2 Looking Ely on Santiam Ave from Detroit Ave
3 Looking NEly at Santiam Ave & N. Santiam Hwy
4 Looking SEly at Santiam Ave & N. Santiam Hwy



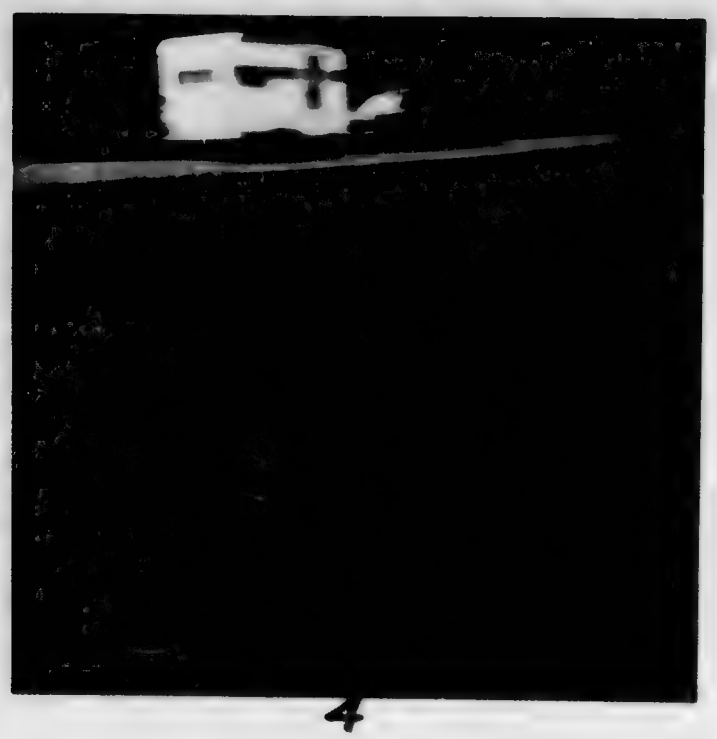
TYPICAL VIEWS
Detroit 5-4-74 (1775-A)

1 looking Wly on Santiam Ave from N. Santiam Hwy
2 looking Ely on Santiam Ave from Detroit Ave
3 Looking NEly at Santiam Ave & N. Santiam Hwy
4 Looking SEly at Santiam Ave & N. Santiam Hwy



TYPICAL VIEWS
Detroit 5-24-74 (19755-A)

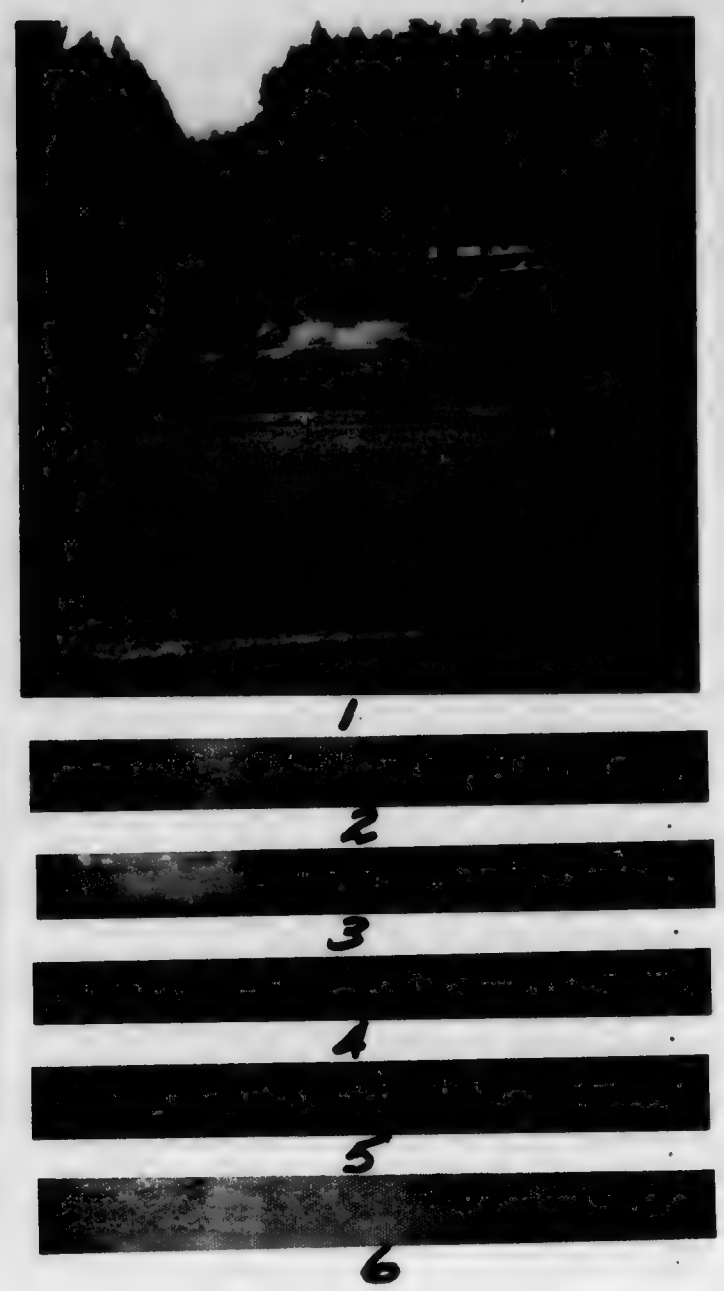
1 looking Wly on Santiam Ave from N. Santiam Hwy
2 looking Ely on Santiam Ave from Detroit Ave
3 Looking NEly at Santiam Ave & N. Santiam Hwy
4 Looking SEly at Santiam Ave & N. Santiam Hwy



4

[illegible]
Detroit 5-4-74 [illegible]

1 looking Nly on Santiam Ave from Santiam Hwy
2 looking Ely on Santiam Ave from Detroit Ave
3 looking NEly at Santiam Ave & N. Santiam Hwy
4 looking SEly at Santiam Ave & N. Santiam Hwy

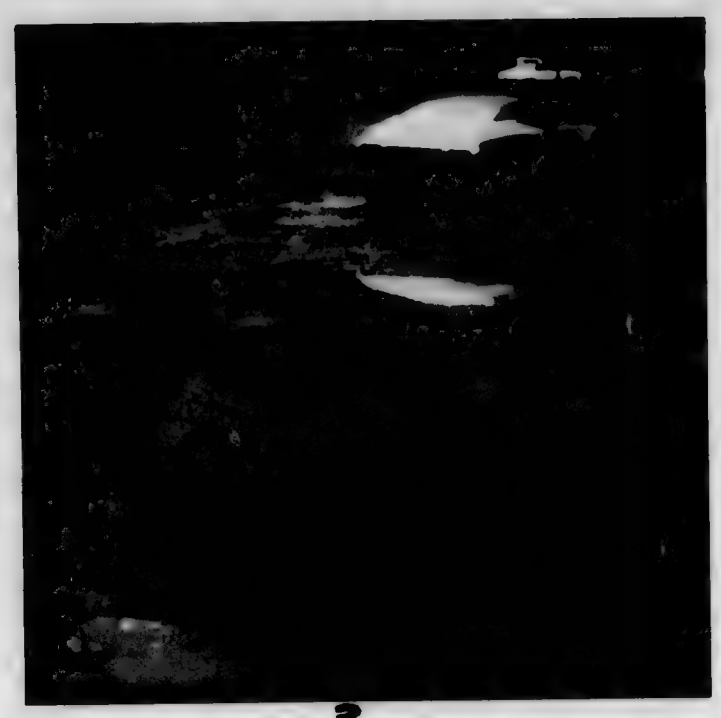


TYPICAL VIEWS
Detroit - 5-24-74 (775 S.A.)

1 Looking Wly on NW D St from Detroit Ave
2 Looking Wly on NW D St from Detroit Ave
3 Looking Ely on NW D St from [illegible] St
4 Looking Ely on [illegible] from Huron St.
[illegible] from NW D St.
6 Looking W/y on [illegible] S. of NW D St.

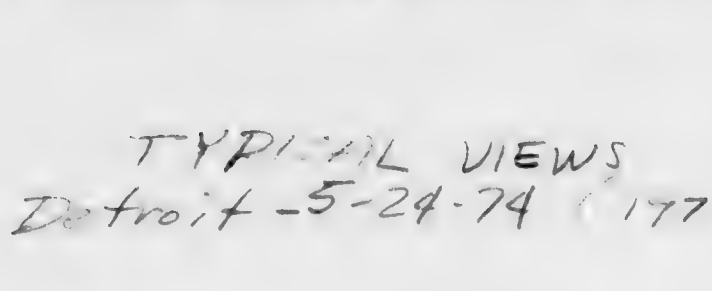
TYPICAL VIEWS
Detroit - 5-24-74 (1775 SCA)

1 Looking Wly on NW D St from Detroit Ave
2 Looking Wly on NW D St from Detroit Ave
3 Looking Ely on NW D St from [illegible] St
4 Looking Ely on NW D St from Harpun St.
5 Looking [illegible] from NW D St.
6. Looking Nly on Patton St from N.W. of NW D St.



3

4



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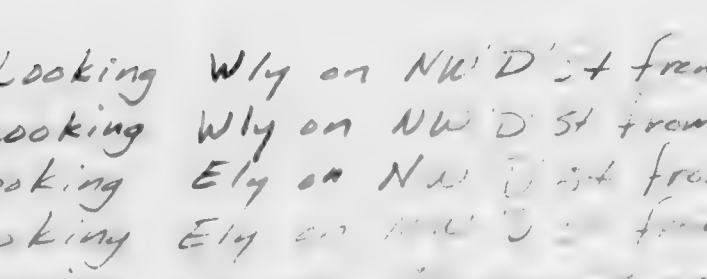
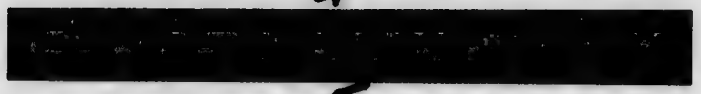


6

TYPICAL VIEWS
Detroit - 5-24-74 (1775 SCA)

1 Looking Wly on NW Dist from Detroit Rec
2 Looking Wly on NW Dist from Detroit Line
3 Looking Ely on NW Dist from [illegible] St
4 Looking Ely on NW Dist from Vernon St.
5 Looking Ely on [illegible] from NW Dist
6 Looking N/ly on Patton St [illegible] of NW Dist.

4

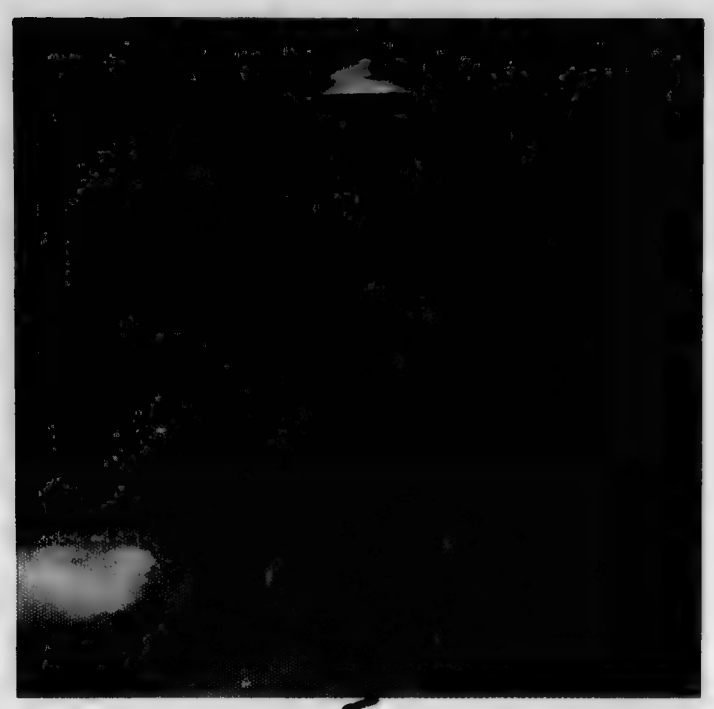


5

6

TYPICAL VIEWS
Detroit - 5-24-74 (1975 SCA)

1 Looking Wly on NW D St from Detroit Ave.
2 Looking Wly on NW D St from Detroit Ave
3 Looking Ely on NW D St from Pierson St
4 Looking Ely on NW D St from Pierson St.
5 Looking [illegible] on [illegible] from NW D St.
6 Looking N'ly on Patton [illegible] S. of NW D St.



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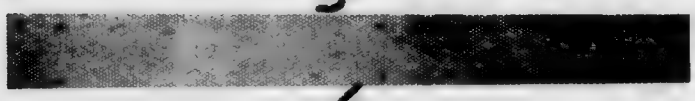


6

TYPICAL VIEWS
Detroit - 5-24-74 (1975 SCA)

1 Looking Wly on NW D St from Detroit Ave
2 Looking Wly on NW D St from Detroit Ave
3 Looking Ely on NW D St from Patton St
4 Looking Ely on NW D St from Patton St.
5 Looking [illegible] on [illegible] St from NW D St.
6 Looking Nly on Patton St from 200' S. of NW D St.

6

TYPICAL VIEWS
Detroit - 5-24-74 (1775 S. Ft.)

1 Looking Wly on NW'D' St from Detroit Ave
2 Looking Wly on NW C St from Detroit Ave
3 Looking Ely on NW C St from [illegible] St
4 Looking Ely on NW C St from Nathan St.
5 Looking Ely on E[illegible] St from NW C St.
6 Looking [illegible]ly on Rator [illegible] from [illegible] of NW C St

CITY: Detroit COUNTY: Marion

SECTION: N.W. 'D' St. 5/31/74

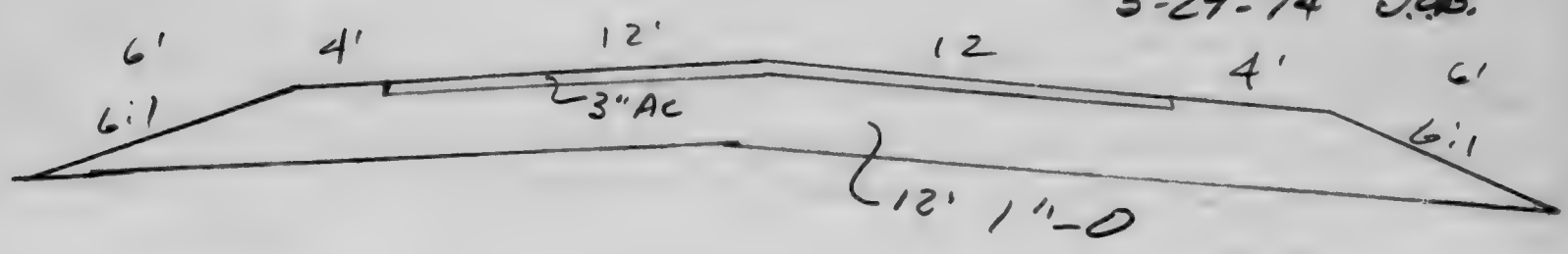
Prelim Price CEL

ESTIMATE Item	Unit	Gross*	Price	Amount
Temp. protection & direction of traff. ($500-$1,000)	all	all	$ L.S.	$ 1,000.00
Clearing & grubbing	all	all	L.S.	
General excavation	c.y.	500	5.00	2,500.00
Finishing roadbed & slopes ($1,500)	mile			
Trench excavation	c.y.			
Watering	M-gal.			
Level material (3/4-0)	c.y.			
Base material 1"-0 12" ink	~~c.y.~~ S.Y.	1200	3.45	4,140.00
Asphalt Class C 3" ink	~~ton~~ S.Y.	660	3.15	2,079.00
Binder	all	all	L.S.	
Concrete inlets	each			
Culvert pipe 12" CMP	lin. ft.	60	7.50	450.00
Concrete curbs	c.y.			

*Items include 10% allowance

Total	$ 10,169.00
Perm. signing ($100/intersection)	200.00
Flagging	
Total	$ 10,369.00
Engineering & contingencies (20%)	2034.00
Total	$ 12,403.00
City's estimated share of survey	—
TOTAL ESTIMATED COST	$ 12,403.00

5-29-74 J.C.B.



General Excavation

~~1.25 x 44 x 220 = 450 C.Y.~~ # 3000
27

Base Material (12" of 1'-0)

$\frac{44 \times 220}{9}$ = 1075 S.Y.

Ac (3")

$\frac{24 \times 220}{9}$ = 600 S.Y.

S.C.A. Investigation Data

City of Detroit Date 5-24-74 Div. 2
Population: 1969 1974 340
Street NW. Dst & Santiam Ave

No. previous projects 2
Last project 1966 (year)
Total SCA funds $21,550.22
Funds/capita $63.38
Average/capita $41.40

EXISTING

Surface now in place: A.C. ___ Oil X Gravel X Concrete ___
Surface width: 20'-24' feet, Shoulder-shoulder width: 0-2 feet
C-C width: ___ feet, R/W width: 75' on Dst-40' on Santiam feet
Remarks: Dst carries local traffic from new subdivision on lake frontage and also tourist traffic
Santiam Ave carries local traffic including school buses

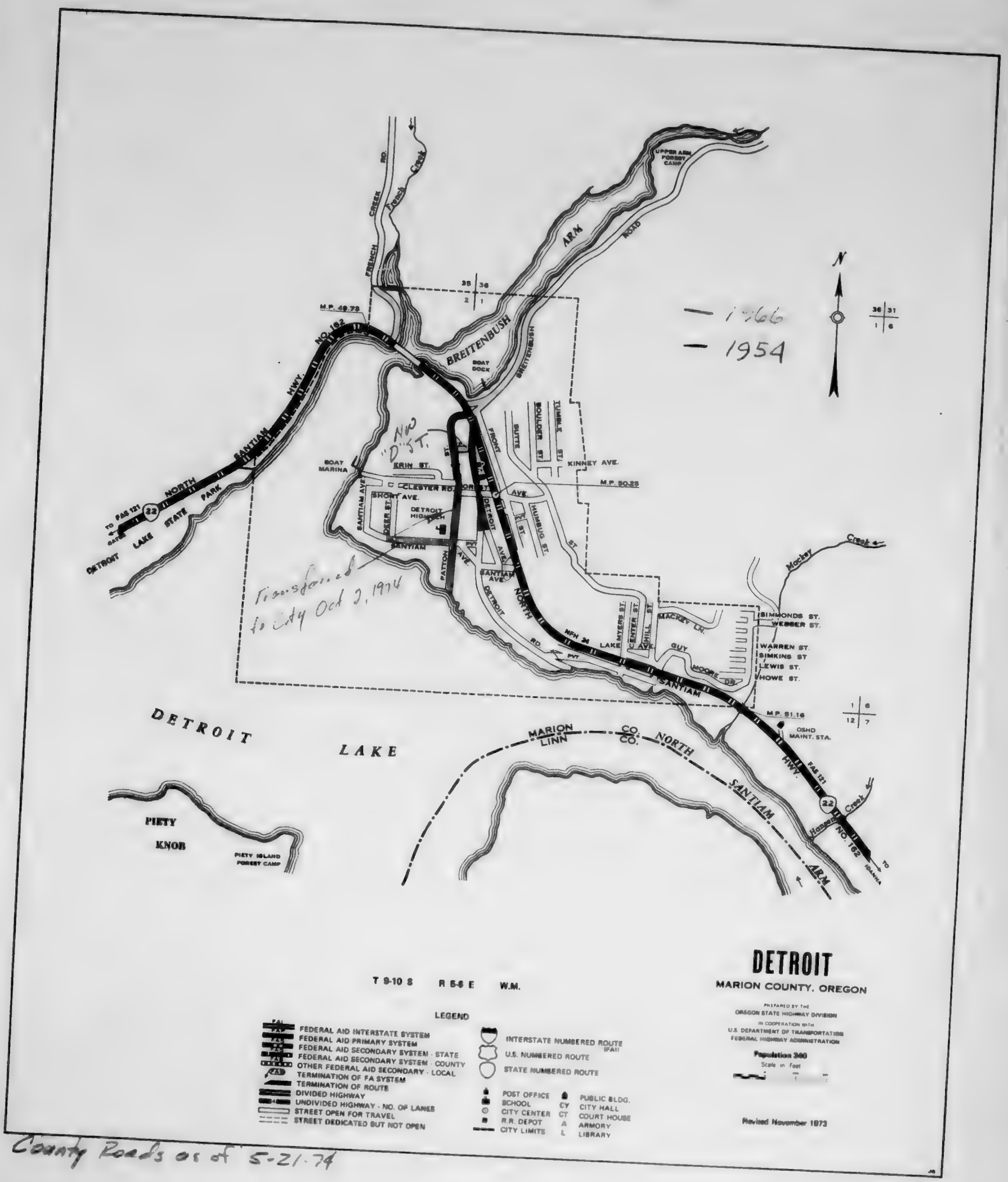
PROPOSED

Surfacing: A.C. X Oil ___ Other gravel shldrs
Pave. width: 24 feet, Shoulder width 4' feet, C-C width: ___ feet
BASE DESIGN: A.C. 3 inches, Leveling — inches, Base 12 inches
Lime T.S.G. ___ inches, Blanket ___ inches, P.M.B.B. ___ inches
Length: 0.05 mile, 250 feet. Type curb: ___
Remarks: Need 10'

ESTIMATE Item	Unit	Gross*	Price	Amount
Temp. protection & direction of traff. ($500-$1,000)	all	all	$ L.S.	$ 500
Clearing & grubbing	all	all	L.S.	—
General excavation	~~c.y.~~ All	All	LS	3000
Finishing roadbed & slopes ($1,500)	mile	—	—	—
Trench excavation	c.y.	—	—	—
Watering	M-gal.	—	—	—
Level material (3/4-0)	c.y.	—	—	—
Base material 12" (1"-0)	~~c.y.~~ S.Y.	1200		
Asphalt 3"	~~ton~~ S.Y.	660		
Binder	all	all	L.S.	—
Concrete inlets	each	—	—	—
Culvert pipe (12")	lin. ft.	60		
Concrete curbs	c.y.	—	—	—

*Items include 10% allowance

Total $___
Perm. signing ($100/intersection) ___
Flagging ___
Total $___
Engineering & contingencies (20%) ___
Total $___
City's estimated share of survey ___
TOTAL ESTIMATED COST $___



DETROIT

MARION COUNTY, OREGON

T 9-10 S R 5-6 E W.M.

PREPARED BY THE
OREGON STATE HIGHWAY DIVISION
IN COOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Population 360

Scale in Feet

Revised November 1973

LEGEND

- FEDERAL AID INTERSTATE SYSTEM
- FEDERAL AID PRIMARY SYSTEM
- FEDERAL AID SECONDARY SYSTEM - STATE
- FEDERAL AID SECONDARY SYSTEM - COUNTY
- OTHER FEDERAL AID SECONDARY - LOCAL
- TERMINATION OF FA SYSTEM
- TERMINATION OF ROUTE
- DIVIDED HIGHWAY
- UNDIVIDED HIGHWAY - NO. OF LANES
- STREET OPEN FOR TRAVEL
- STREET DEDICATED BUT NOT OPEN

- INTERSTATE NUMBERED ROUTE (PA1)
- U.S. NUMBERED ROUTE
- STATE NUMBERED ROUTE

- POST OFFICE
- SCHOOL
- CITY CENTER
- R.R. DEPOT
- CITY LIMITS
- PUBLIC BLDG.
- CY CITY HALL
- CT COURT HOUSE
- A ARMORY
- L LIBRARY

County Roads as of 5-21-74

R E S O L U T I O N

WHEREAS, under the provisions of ORS 366.800 and 366.805 there has been withdrawn from state highway funds appropriated for allocation to the several cities of the State of Oregon the sum of Two Hundred Fifty Thousand and No/100 ($250,000) Dollars, and said sum has been set up in a separate account to be administered by the Oregon Transportation Commission and to be spent each year by said Commission upon streets not a part of the state highway system, within cities, which are receiving excessive wear through sudden increases in population in the area or heavy and unusual traffic; and

WHEREAS, the City of Detroit is an incorporated city of the State of Oregon and has a population of 330 as given by the latest official census; and

WHEREAS, the following streets of said city, Butte, Boulder, Tumble, Kinney, Humbug, Front, Forest, Erin, Detroit Rd, Myers, Lake, Center, Hill, Mackey, Guy Moore, Howee, Lewis, Simkins, Warren, Webber, Simons, 1st, 2nd, 3rd, 4th, D, Patton, Cluster, Santiam, Short, Deer, Detroit Ave.

RECEIVED
COUNTY & CITY SECTION
MAR 18 1974
☐ ENGR. ☑ COOR. ☐ GE ☒ AE ☐ UE
☐ UPE ☑ CE ☐ RE ☐ RPE ☐

are not a part or parts of the state highway system, but are streets under the jurisdiction and control of said city which are "receiving excessive wear through sudden increase in population in the area, or heavy and unusual traffic," and

WHEREAS, said streets are and each of them is in need of repair, reconditioning, and other major improvement,

NOW, THEREFORE, the members of the City Council, in regular or special session assembled, do hereby find, declare, and resolve:

1. That the aforesaid named streets of said city are in need of repair, reconditioning, and other major improvement.

2. That said streets are in their present state and condition of disrepair by reason of excessive wear through sudden increases in population in the area, or by heavy and unusual traffic.

3. That the Oregon Transportation Commission hereby is respectfully requested to consider and declare said streets as qualified for reconditioning, repair, and other improvement out of funds allocated and made available by and through the said $250,000 appropriation of state highway revenues which is to be administered and spent by the Transportation Commission.

cc-50, 1959 Rev.)

4. That the City of Detroit does hereby offer to Transportation Commission and does hereby pledge complete cooperation and assistance to the end that said city may share and participate in the use and benefit of said special fund and appropriation; and therefore does designate City Street Commissioner as the official representative of the city in all negotiations resulting from this request. Mr. Robert L. Layman is presently the Commissioner.

Passed and approved this 12 day of March, 1974.

There is attached hereto and made a part hereof, a city map on which is indicated the street, streets, road, or roads described in this resolution.

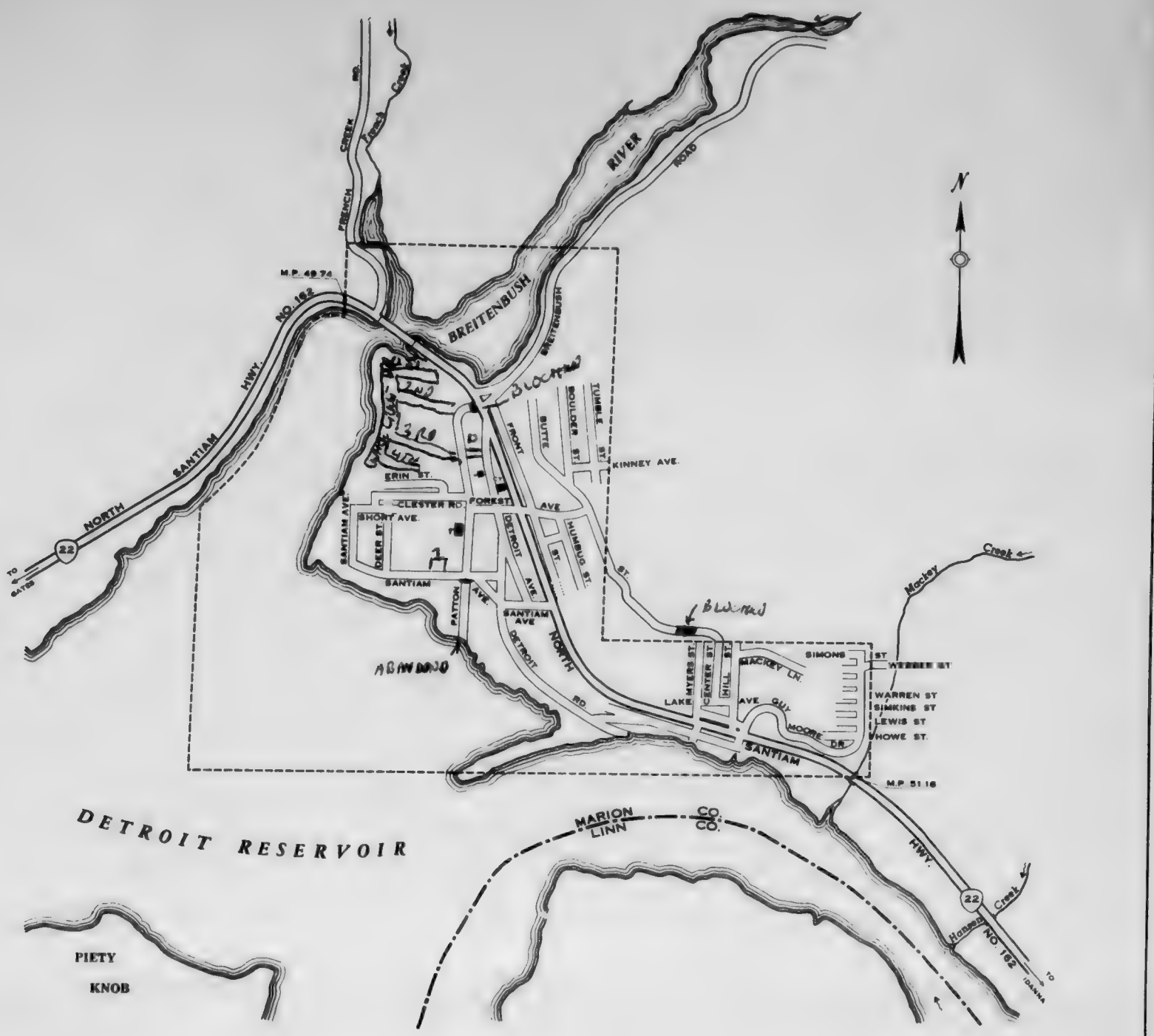
- - - - - - - - - - - - - - - - - - -

I hereby certify that the foregoing resolution was passed and approved by the City Council of the City of Detroit at a regular or special meeting of said Council, held on the 12th day of March, 1974, and the above copy is a true and correct copy of the original and of the whole thereof.

Dated this 14 day of March, 1974.

Ruth Thomasson
City Recorder

(cc-50, 1959 Rev.)



SIGNED ROUTES

INTERSTATE 5
U.S. 30
ORE. 22

LEGEND

- Post Office
- Public Bldg.
- School
- CY – City Hall
- CT Court House
- R. R. Depot
- A – Armory
- L – Library
- Street open for travel
- Street dedicated but not open.
- City Limits

DETROIT

MARION COUNTY, OREGON

PREPARED BY THE
OREGON STATE HIGHWAY DEPARTMENT
TRAFFIC ENGINEERING DIVISION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

Population 206

Scale in Feet

May 1, 1961

COUNTY SEAT IN ON
FEB 7, 74

8258 Rooster Rock St. Park 20 mi. 19?
east of Portland
(Beach restoration & erosion con)

8259

Oregon Culvert Co., Inc.
PO Box 406
Tualatin, OR 97062

December 16, 1975

Gentlemen:

Thank you for your letter of December 11, 1975, informing us that your claim against General Construction Company in the amount of $4,737.16 has been satisfied.

Our records indicate that this claim was in reference to General Construction Company's, Contract No. 8258, Rooster Rock State Park in Multnomah County.

This information is being noted in our records and we will advise the surety and principal contractor of the receipt of your letter.

Very truly yours,

C. W. Head
COMMISSION SERVICES

CWH:rw

cc: General Construction Company
2929 NW 31st Ave.
Portland, OR 97210

The Travelers Indemnity Co.
Surety Dept.
707 SW Washington St.
Portland, OR 97205

12-16-75
letter on
CCC-4

Oregon Culvert Co., Inc.

(AREA CODE 503) TELEPHONE 638-4131
P. O. BOX 406 • TUALATIN, OREGON 97062

December 11, 1975

Mr. C.W. Head
Commission Services
121 Hwy. Bldg.
Salem, Oregon 97310

Re: Job #8258
Beach Restoration & Erosion
Control - Rooster Rock State Park
Contr: General Construction Co.

Dear Mr. Head:

This is to inform you that our claim against General Construction Co. on the above referenced project in the amount of $4,737.16 has been satisfied.

Very truly yours,

OREGON CULVERT CO., INC.

J.R. Taylor
Controller

JRT:bf
cc

RECEIVED
DEC 15 1975
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

WE RE-INVEST IN THE NORTHWEST — WILL YOU?

8259

Files

4997

FILED
DEC 3 1975
CLAY MYERS
SECRETARY OF STATE

DEPARTMENT OF TRANSPORTATION

ROBERT W. STRAUB
GOVERNOR

GEORGE M. BALDWIN
Director of Transportation

SAM R. HALEY
Deputy Director

HIGHWAY BUILDING • • SALEM, OREGON • • 97310

December 3, 1975

Oregon Culvert Co., Inc.
PO Box 406
Tualatin, OR 97062

Attn: J. R. Taylor

RECEIVED
12-15-75

Gentlemen:

This is in reply to your claim letter of November 21, 1975, informing us that General Construction Company owes you $4,737.16 for corrugated steel pipe and fittings.

This appears to be in reference to the General Construction Company, Contract No. 8258, beach restoration and erosion control in Rooster Rock State Park in Multnomah County.

The Travelers Indemnity Company through C. A. Tomassene & Son furnished the performance bond on this contract. We will advise them of the receipt of this claim and we will also forward it to the Secretary of State for filing.

This contract was completed on September 29, 1975, and accepted on November 18.

Please advise this office when your claim has been satisfied.

Very truly yours,

ORIGINAL SIGNED
C. W. HEAD

C. W. Head
COMMISSION SERVICES

CWH:rw

cc: The Travelers Indemnity Co.
Surety Dept.
707 SW Washington St.
Portland, OR 97205

General Construction Company
2929 NW 31st Ave.
Portland, OR 97210

bc: Secretary of State - Please acknowledge receipt of this attached claim on the enclosed copy of this letter.

RECEIVED
DEC 15 1975
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

Oregon Culvert Co., Inc.

(AREA CODE 503) TELEPHONE 638-4131
P. O. BOX 406 • TUALATIN, OREGON 97062

November 21, 1975

Oregon State Hwy. Dept.
121 Hwy. Bldg.
Salem, Oregon 97310

Re: Job #8258
Beach Restoration & Erosion Control - Rooster Rock State Park
Contr: General Const. Co.

Gentlemen:

Notice is hereby given that Oregon Culvert Co., Inc. has a claim in the amount of $4,737.16 against the bond obtained by General Construction Company as principal, from Travelers Insurance Company as surety.

This claim is for corrugated steel pipe and fittings furnished for the work on the job at Rooster Rock State Park.

OREGON CULVERT CO., INC.

By: J. R. Taylor
J.R. Taylor - Controller

JRT:bf
cc

RECEIVED
NOV 24 1975
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

WE RE-INVEST IN THE NORTHWEST — WILL YOU?

4.5

November 19, 1975

The Travelers Indemnity Co.
Surety Department
707 S.W. Washington Street
Portland, OR 97205

Gentlemen:

Contract No. 8258 awarded to General Construction Company for work in the Rooster Rock State Park in Multnomah County was completed on September 29, 1975, and accepted by the Administrator and State Highway Engineer on November 18, 1975.

Final payment in the amount of $11,521.34 will be released to the contractor after November 24, 1975. The total contract amount is $263,405.28 and no work was performed under force account.

No claims for labor or material have been filed with us.

Very truly yours,

C. W. Head
COMMISSION SERVICES

sr

cc General Construction Co.
2929 N.W. 31st Ave.
Portland, OR 97210

bc C. T. Keasey
Walt Hart
V. E. Skoog Attn: Dick Hacek
E. L. Hardt

8258

FORM E-1 (REV 12-64)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

NAME OF JOB: Rooster Rock State Park	SECTION: ROOSTER ROCK STATE PARK	WEEK ENDING: October 4, 1975
	HIGHWAY:	SECTION PREFIX: 26-3343
CONTRACTOR: General Construction Co.	KIND OF WORK: Beach Restoration and Erosion Control	COUNTY: Multnomah
DATE OF CONTRACT: July 1, 1975	CONTRACT NUMBER: 8258	FEDERAL AID PROJECT NUMBER: State
AVERAGE FORCE ON PROJECT FOR THE WEEK. MEN: 2 SUPERVISION 1	DATE WORK STARTED: August 11, 1975	ESTIMATED COMPLETION DATE: September 29, 1975
	SPECIFIED WORK DAYS	WORK DAYS USED
PROJECT AUTHORIZATION: $323,238.87	SPECIFIED CALENDAR DAYS	CALENDAR DAYS USED
EXCLUSIVE OF ENGINEERING: $297,607.59	SPECIFIED COMPLETION DATE: April 30, 1976	PERCENT OF TIME ELAPSED: 31.7
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $265,631.31	ENGINEERING AUTHORIZATION: $25,631.28	PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: ~~99.8~~ 100
ESTIMATED PERCENT: OVERRUN / UNDERRUN: 10.7%	ENGINEERING COST TO DATE: $5,000.00	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 83.6
	PERCENT OF AUTHORIZATION: 19.6%	DATE PROJECT WAS COMPLETED: September 29, 1975

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	BASE	OIL AND/OR PAVE. MAT'L PROD		

	GRADING	SURFACING	MAINTENANCE MATERIALS	OIL & BITUMINOUS MACADAM	PAVING
MILES IN PROJECT					
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)					
TOTAL QUANTITIES CORRECTED TO DATE					
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE					
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY					
HOURS PER SHIFT					

EQUIPMENT USED DURING THE WEEK:

1 crane and 1 frontend loader

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.								
PERCENT								

	WEATHER	WORK DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Fair			
MONDAY	Fair			
TUESDAY	Fair			
WEDNESDAY	Fair			
THURSDAY	Fair			
FRIDAY	Showers			
SATURDAY	Showers			

Routing
Keasey
Bond
Jackmond
Harwood
Johnson
Walker
Richards
Glenn
Berg

RECEIVED
OCT 6 1975
CONSTRUCTION
SECTION

BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK	
SUNDAY	No activity
MONDAY	Completed all misc. work. Removed equipment from project.
TUESDAY	No activity
WEDNESDAY	No activity
THURSDAY	No activity
FRIDAY	No activity
SATURDAY	No activity

REMARKS

SUMMARY: Completed all misc. work on project.

NEXT WEEK: Semi-final inspection

MAN-DAYS ON PROJECT: Office 1½
Field 2½

SIGNED C. L. Kuiper LOCATION Oregon City

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

SP*F216

8858

R'

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM 97310

TOM McCALL
GOVERNOR

March 27, 1974

Mr. Chester Kongslie
4025 S. E. 16th Street
Portland, Oregon 97202

Dear Mr. Kongslie:

The Parks Branch of the State Highway Division has had several meetings with the Corps of Engineers, which has been most cooperative and has tried in every way possible to arrive at a method to replace the sand at Rooster Rock State Park. However, at the last meeting, the Corps advised it was unable legally to place fill on the beach area. The State Parks staff is now studying the feasibility of a construction project to raise the grade with sand. The Corps has assured the Parks Branch that it will provide engineering and technical assistance and, if the project is practical, the state will reconstruct the beach area.

I share your hope (as does the Parks Branch) that this popular park will be returned to its former level of service for the benefit of the large number of people in and around the Portland Metropolitan Area.

Sincerely,

Governor

TM:lh

bcc: Highway

cy Parks
4-3-74

RECEIVED
STATE HWY ENGR
APR 2'74
REFER TO
FOR

COPY

1.10.74 Kongslie to Highway

JAN 10 1974

Madras, Oregon
January 9, 1974

Thomas W. McCall, Governor
State of Oregon,
Salem, Oregon 97301

Dear Mr. Governor:

In view of your stand for the betterment of Oregon for Oregonian's and a need to provide greater extra-curricular convenience for them, it would seem that the Rooster Park Recreation Area should be brought up to the finest degree of purpose. More than 90% of it's patrons drive out from the Portland Metropolitan area - and for a big part, they are upset by present conditions as they exist;

While energy resources would be required by the Army Engineer Corps to do the job, this would likely be offset in large by keeping more weekenders, more happily content, nearer to home.

Trusting that you will weigh these thoughts and please do inform the General of your analysis.

Sincerely,
Chester Kongslie

cc: Mrs Rumbolz

Address communication c/o :

4025 S. E. 16th Street
Portland, Oregon 97202

RECEIVED
STATE HWY ENGR
JAN 11 '74
REFER TO
FOR
Info | Invest | R/D | ROW | Sign | Act | File

Would you please tell me if this is indeed true, and if so, has your study reached a point where you are able to propose a tentative schedule? We would be most appreciative of any information you can give.

Respectfully,

Chester Kongslie
Patricia S. Humbolz

Co-partners: Mr. Chester Kongslie
City Trailer Court #23
Madras, Oregon 97741

Mrs. Patricia S. Humbolz
4025 S.E. 16th Street
Portland, Oregon 97202

Note: Please address all correspondence to 4025 S.E. 16th
Portland, Oregon
97202

cc: Gov. Tom McCall
State Capitol bldg.
Salem, Oregon

January 5, 1974

Maj. General R. E. McConnell
Division Engineer, Corps of Army Engineers
North Pacific Division
210 Custom House -
Portland, Oregon 97209

Subject: Beach Restoration
Rooster Rock State Park on the
Columbia River, Oregon

Dear Sir,

We plan to submit a proposal for a lease agreement with the Sate of Oregon for the food & soft drink concession at Rooster Rock State Park, located roughly 22 miles upstream from Portland on the south shore of the Columbia River.

It is our understanding that attendance at the park has dropped sharply in the past season, due to the loss of the sand beach along the river through erosion. Apparently this beach was the major attraction of the park, since it was used for sunbathing, picnicing, swimming, etc.

Naturally, as prospective lessees, our concern is that rate of attendance at the park could spell either success or failure for the concession business. I'm sure that this will be in the minds of <u>any</u> bidders for the lease.

Aside from personal motives, however, I'm also sure that the State of Oregon must be deeply concerned about loss of the the beach area, as this loss is a serious detriment to the over-all attractiveness of the park. More than likely, the park location was chosen for the scenic beauty of the area, which included a natural, ocean-like sand beach, and now the people are being deprived of that attraction. Considering the fuel shortage crisis and close proximity of this spot to Portland and Vancouver, the park could be a god-send for people of the area.

All of the foregoing brings me to the point of this letter; we have heard that the Corps of Engineers is studying the possibility of improving the river channel by pumping sand from the channel to the shore, and that perhaps this could be the solution to restoring the beach at Rooster Rock Park. What a commendable undertaking that would be, as everyone involved would benefit.

RECEIVED
JAN 15 1974
STATE PARKS
SECTION

8259 NE Union Ave-NE 82nd Ave Sec 1975
Col. River Hwy. in Portland
(Grad.,pav,bar.,sign & ill.) #10

VICTOR ATIYEH
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

September 23, 1983

Hon. Norma Paulus
Secretary of State
136 State Capitol
Salem, OR 97310

IN REPLY REFER TO
FILE NO.:

LEG

Attention: Administrative Rule Section

FILED
SEP 23 1983
NORMA PAULUS
SECRETARY OF STATE

Dear Mrs. Paulus:

Attached for filing are two certified copies each of two permanent administrative rules repealing OAR 734-20-035 and OAR 734-20-040 relating to the bus lanes on the Barbur Boulevard and bus lanes and high occupancy use lanes on the Banfield Freeway.

We are also attaching two copies each of a document entitled Statement of Statutory Authority, Need, Justification, Documents Relied On, Fiscal Impact and Economic Effect.

Please publish in the October 15, 1983, issue of your Administrative Rule Bulletin.

Sincerely,

Robert W. Gormsen
COMMISSION SERVICES

fkn
Atts.

731-0146

Rev. 11. 1977
Rev. Oct. 1979

CERTIFICATE AND ORDER
for
FILING ADMINISTRATIVE RULES WITH THE SECRETARY OF STATE

I HEREBY CERTIFY that the attached copy is a true, full and correct copy of rule(s) adopted by the

Oregon Transportation Commission (Agency) on September 20, 1983 (Date)

to become effective upon filing (September 23, 1983) (Date)

The within matter having come before the Oregon Transportation Commission (Agency) after all procedures having been in the required form and conducted in accordance with applicable statutes and rules and being fully advised in the premises:

NOW THEREFORE, IT IS HEREBY ORDERED THAT the following rule(s) be adopted: Perm. ☒ or Temp. ☐
(List Rule Number(s) or Rule Title on Appropriate Lines Below)

Adopted:
(New Rules)

Amended:
(Existing Rules)

Suspended:
(Temporary Only)

Repealed:
(Existing Rules) OAR 734-20-035

as Administrative Rules of the Oregon Transportation Commission (Agency) Highway (Division)

DATED this 23rd day of September 19 83

By: (Authorized Signer)

Title: Manager, Commission Services

Statutory Authority: ORS 184.619 and ORS 487.905

Subject Matter: Bus lanes on Barbur Blvd.

Statement of Need Attached: ☒ Fiscal Impact Attached: ☒

For Further Information Contact: Ed Hart, Region Metro Engineer Phone: 653-3090

1. OAR 734-20-035 is repealed.

Barbur Boulevard

[734-20-035 The following portion of Barbur Boulevard is designated for exclusive use by Tri-Met buses:

(1) The center (median) lane from Southwest Front Avenue (milepoint 1.97) to Southwest Slavin Road (milepoint 3.18).

(2) The bus lane shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

(3) The designation of the bus lane shall take place upon completion of the present reconstruction project in the affected areas of Barbur Boulevard.]

Adopted by Transportation Commission
Date Sept. 20, 1983
Effective: Sept. 23, 1983

BEFORE THE OREGON TRANSPORTATION COMMISSION
(Highway Division)

In the matter of the Repeal of OAR 734-20-035 and 734-20-040 Relating to Bus Lanes	)))))	STATEMENT OF STATUTORY AUTHORITY, NEED, JUSTIFICATION, DOCUMENTS RELIED ON, FISCAL IMPACT AND ECONOMIC EFFECT

The Oregon Transportation Commission proposes to repeal OAR 734-20-035 and OAR 734-20-040, to eliminate bus lanes on Barbur Blvd. and to eliminate bus and high occupancy vehicle lanes on the Banfield Freeway. That action is based upon the following.

A. Statutory Authority: ORS 184.619; ORS 487.905.

B. Need for the Rule: The elimination of the Barbur Blvd. bus lanes is at the request and concurrence of Tri-Met. The elimination of the bus and high occupancy vehicle lanes on the Banfield Freeway has already been accomplished. The current construction on the Banfield necessitates the elimination of these restricted use lanes.

C. Documents Relied Upon: None

D. Fiscal Impact: Striping and redesign costs to be shared by Tri-Met.

E. Economic Effect: None

Rev. Oct. 1979

CERTIFICATE AND ORDER
for
FILING ADMINISTRATIVE RULES WITH THE SECRETARY OF STATE

I HEREBY CERTIFY that the attached copy is a true, full and correct copy of rule(s) adopted by the Oregon Transportation Commission (Agency) on September 20, 1983 (Date)

to become effective upon filing (September 23, 1983) (Date)

The within matter having come before the Oregon Transportation Commission (Agency) after all procedures having been in the required form and conducted in accordance with applicable statutes and rules and being fully advised in the premises:

NOW THEREFORE, IT IS HEREBY ORDERED THAT the following rule(s) be adopted: Perm. ☒ or Temp. ☐
(List Rule Number(s) or Rule Title on Appropriate Lines Below)

Adopted:
(New Rules)

Amended:
(Existing Rules)

Suspended:
(Temporary Only)

Repealed:
(Existing Rules) 734-20-040

as Administrative Rules of the Oregon Transportation Commission (Agency) Highway (Division)

DATED this 23rd day of Sept. 1983

By: (Authorized Signer)

Title: Manager, Commission Services

Statutory Authority: ORS 184.619 and ORS 487.905

Subject Matter: Eliminate bus lanes and high occupancy lanes on Banfield Freeway

Statement of Need Attached: ☒ Fiscal Impact Attached: ☒

For Further Information Contact: Ed Hardt, Region Metro Engineer Phone: 653-3090

nfield Freeway
ancy use.
2.88 to
.69 to
rs.

Adopted by Transportation
DateSept. 20
Effecti

11. OAR 734-20-040 is repealed.

Banfield Freeway

[734-20-040 (1) The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

(a) The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

(b) The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

(2) For purposes of this rule, "high-occupancy passenger vehicles" means a passenger vehicle carrying two or more passengers, or a properly licensed or franchised taxicab.

(3) Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

(4) The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.]

Adopted by Transportation Commission
Date Sept. 20, 1983
Effective: Sept. 23, 1983

BEFORE THE OREGON TRANSPORTATION COMMISSION
(Highway Division)

In the matter of the Repeal of OAR 734-20-035 and 734-20-040 Relating to Bus Lanes	STATEMENT OF STATUTORY AUTHORITY, NEED, JUSTIFICATION, DOCUMENTS RELIED ON, FISCAL IMPACT AND ECONOMIC EFFECT

The Oregon Transportation Commission proposes to repeal OAR 734-20-035 and OAR 734-20-040, to eliminate bus lanes on Barbur Blvd. and to eliminate bus and high occupancy vehicle lanes on the Banfield Freeway. That action is based upon the following.

A. Statutory Authority: ORS 184.619; ORS 487.905.

B. Need for the Rule: The elimination of the Barbur Blvd. bus lanes is at the request and concurrence of Tri-Met. The elimination of the bus and high occupancy vehicle lanes on the Banfield Freeway has already been accomplished. The current construction on the Banfield necessitates the elimination of these restricted use lanes.

C. Documents Relied Upon: None

D. Fiscal Impact: Striping and redesign costs to be shared by Tri-Met.

E. Economic Effect: None

VICTOR ATIYEH
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

September 23, 1983

IN REPLY REFER TO
FILE NO.:

LEG 4

Mr. Thomas Clifford
Legislative Counsel
S101 Capitol Building
Salem, OR 97310

RECEIVED
SEP 23 1983
LEGISLATIVE COUNSEL'S

Dear Mr. Clifford:

Attached are copies of two permanent administrative rules adopted by the Oregon Transportation Commission on September 20, 1983. These rules repeals OAR 734-20-035 and OAR 734-20-040 relating to the bus lanes on the Barbur Boulevard and bus lanes and high occupancy use lanes on the Banfield Freeway. We are also enclosing copies of the document entitled Statement of Statutory Authority, Need, Justification, Documents Relied On, Fiscal Impact and Economic Effect.

No requests for a hearing were received.

We are filing a certified copy of these permanent rules with the Secretary of State today.

If you have any questions, please contact Dale Hormann, Assistant Attorney General, at 84259.

Sincerely,

Robert W. Gormsen
COMMISSION SERVICES

fkn
Att.

731-0146

f 1-

MAILING LIST

Copy of adopted ___permanent_____ rule

Subject: Repealing rules relating to bus lanes on the Barbur Blvd. & bus lanes and high occupancy use lanes on Banfield Freeway.

Mailed to following on 9-23-83
(date)

Sent to:

Workers' Compensation Dept., Salem
United Press International, Salem
Assoc. Press, Salem
Oregon Labor Press, Portland
Associated General Contractors, Portland
Associated Oregon Industries, Salem
Ed Whelan, PGE, Portland
State Regulatory Division, Sacramento, CA
Jackson County Law Library
Tom Fender, Oregon Small Business Counsel, Salem

bc Ed Hardt

VICTOR ATIYEH
GOVERNOR

Department of Transportation
HIGHWAY DIVISION
TRANSPORTATION BUILDING, SALEM, OREGON 97310

DATE: September 12, 1983

TO: Oregon Transportation Commission

NOTED
W. E. SCHWARTZ

FROM: H. S. Coulter
State Highway Engineer

SUBJECT: Proposed Action on Administrative Rules

In Reply Refer to File No.

RECEIVED
LEG
STATE HWY ENGR
SEP 13 '83
REFER TO
FOR

Info	Invest	R/D	D/R	Sign	Act	File

You will be asked to consider proposed action on four sets of administrative rules at your September 20 meeting.

1. The proposed repeal of OAR 734-20-035, the Barbur Boulevard bus lanes; and of OAR 734-20-040, the Banfield high-occupancy vehicle lanes (HOV). The Banfield HOV lanes were eliminated some time ago; however, the rule was not repealed. The Division has been working with Tri-Met concerning changes to the bus lanes on Barbur Boulevard, and the final consensus is that the bus lanes should be eliminated completely.

2. Allow 102-inch wide commercial vehicles and waive overall length restrictions for certain vehicle combinations. These rules are needed for Oregon compliance with the Suface Transportation Act of 1982. A public hearing was held September 8, and no testimony was given in opposition to the rule. A number of people testified, basically in support of the rule, but with recommended revisions for uniformity with the adjoining states of Washington and Idaho.

3. Amendments to OAR 734-74-051 which clarify the authority of the State Highway Engineer to approve and require splash and spray suppressant devices on certain vehicles and vehicle combinations by setting forth more detailed guidelines and criteria.

4. Amendment of OAR 734-20-070 to increase the fee for an annual Sno-Park Permit from $7 to $9. The increased fee is necessary to meet the current cost of the winter recreation parking program.

I recommend your approval of the repeal of OAR 734-20-035 and 734-20-040; the amendments to OAR 734-20-070 and 734-74-051; and the adoption of rules allowing the 102-inch wide commercial vehicles and the waiver of certain overall length combinations.

bc Fred D. Miller
R. W. Gormsen
Dale Hormann
E. S. Hunter
W. E. Schwartz
E. L. Hardt
R. P. Hamilton
L. E. George
John Sheldrake
George Bell

LEC 4

Dale Hormann
Legal

September 7, 1983

Robert W. Gormsen
Commission Services

NOTED
H.S.COULTER

Concerning the proposed administrative rule for repealing OAR 734-20-035 and OAR 734-20-040 relating to the bus lanes on the Barbur Boulevard and bus lanes and high occupancy use lanes on the Banfield Freeway, Commission Services has not received any written comments or requests for a hearing. The deadline was September 5, 1983.

We assume that you will proceed toward final adoption by the Commission of the repeal of the rule.

cc H. S. Coulter
Jack Sollis
Ed Hardt

RECEIVED
STATE HWY ENGR
SEP 7 '83
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

VICTOR ATIYEH
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

FILED
AUG 5 1983
NORMA PAULUS
SECRETARY OF STATE

August 5, 1983

IN REPLY REFER TO FILE NO.. LEG 4

Hon. Norma Paulus
Secretary of State
136 State Capitol
Salem, OR 97310

Attention: Administrative Rule Section

Dear Mrs. Paulus:

Please publish the attached Notice of Proposed Amendments of Rules in your Administrative Rule Bulletin on August 15, 1983, concerning the repeal of OAR 734-20-035 and OAR 734-20-040 relating to the bus lanes on the Barbur Boulevard and bus lanes and high occupancy use lanes on the Banfield Freeway.

We are also attaching a copy of the Statement of Statutory Authority, Need, Justification, Documents Relied On, Fiscal Impact and Economic Effect.

Sincerely,

Robert W. Gormsen
COMMISSION SERVICES

fkn

Atts.

BEFORE THE OREGON TRANSPORTATION COMMISSION
(Highway Division)

In the matter of the Repeal of OAR 734-20-035 and 734-20-040 Relating to Bus Lanes	)))	NOTICE OF PROPOSED AMENDMENTS OF RULES

1. On or about September 20, 1983, the Oregon Transportation Commission proposes to repeal OAR 734-20-035 and OAR 734-20-040, concerning bus lanes on Barbur Blvd., and bus lanes and high occupancy use lanes on the Banfield Freeway, respectively.

2. Copies of the proposed rules being repealed may be obtained by contacting Robert Gormsen, 121 Transportation Building, Salem, Oregon 97310, telephone 378-6526.

3. The issues to be considered include the continued need of bus and high occupancy use lanes in these areas, and safety to the motoring public.

4. Interested parties may submit data or views concerning the proposed repeal of rules in writing. Written comments will be considered if received by Mr. Gormsen by mail post-marked no later than September 5, 1983, sent to the above address.

5. If interested persons wish to present their data, views and arguments orally or in writing at a public hearing, they must make a written request for a public hearing and submit this request along with any written comments to Mr. Gormsen.

6. A public hearing will be held regarding the proposed repeal of rules if, within 15 days after publication of notice in the Bulletin of the Secretary of State, requests are received from ten or more persons, or an association having not less than ten members. If sufficient requests are received to hold a public hearing, notification of the date and time of the hearing will be made.

7. A statement of need for the proposed action has been prepared and is available for public review during regular business hours (Monday through Friday, 8:00 a.m. to 5:00 p.m.) in the office of Mr. Gormsen, at the address above.

DATED this 4th day of August, 1983.

Robert Gormsen

Robert Gormsen
Manager, Commission Services
Department of Transportation

BEFORE THE OREGON TRANSPORTATION COMMISSION
(Highway Division)

In the matter of the Repeal of OAR 734-20-035 and 734-20-040 Relating to Bus Lanes	STATEMENT OF STATUTORY AUTHORITY, NEED, JUSTIFICATION, DOCUMENTS RELIED ON, FISCAL IMPACT AND ECONOMIC EFFECT

The Oregon Transportation Commission proposes to repeal OAR 734-20-035 and OAR 734-20-040, to eliminate bus lanes on Barbur Blvd. and to eliminate bus and high occupancy vehicle lanes on the Banfield Freeway. That action is based upon the following.

A. Statutory Authority: ORS 184.619; ORS 487.905.

B. Need for the Rule: The elimination of the Barbur Blvd. bus lanes is at the request and concurrence of Tri-Met. The elimination of the bus and high occupancy vehicle lanes on the Banfield Freeway has already been accomplished. The current construction on the Banfield necessitates the elimination of these restricted use lanes.

C. Documents Relied Upon: None

D. Fiscal Impact: Striping and redesign costs to be shared by Tri-Met.

E. Economic Effect: None

1. OAR 734-20-035 is repealed.

Barbur Boulevard

[734-20-035 The following portion of Barbur Boulevard is designated for exclusive use by Tri-Met buses:

(1) The center (median) lane from Southwest Front Avenue (milepoint 1.97) to Southwest Slavin Road (milepoint 3.18).

(2) The bus lane shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

(3) The designation of the bus lane shall take place upon completion of the present reconstruction project in the affected areas of Barbur Boulevard.]

II. OAR 734-20-040 is repealed.

Banfield Freeway

[734-20-040 (1) The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

(a) The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

(b) The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

(2) For purposes of this rule, "high-occupancy passenger vehicles" means a passenger vehicle carrying two or more passengers, or a properly licensed or franchised taxicab.

(3) Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

(4) The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.]

STATE OF OREGON

INTEROFFICE MEMO

TO: Fred Miller, Director
Department of Transportation

DATE: April 19, 1983

NOTED
H. S. COULTER

FROM: Dale K. Hormann DKH
Assistant Attorney General

SUBJECT: Administrative Rule Amendment; Barbur Blvd. Bus Lanes, and Banfield HOV

Tri-Met has made a request to Ed Hardt, Metro Region Engineer, that the configuration and operation of the Barbur Blvd. bus lane be changed to greatly restrict the extent of the "bus only" lanes. That request is found in the attached letter from Tri-Met to Mr. Hardt. Since the extent of the designation of "bus only" lanes on Barbur Blvd. are set forth in administrative rules, it will be necessary to amend those rules prior to this change. The other recommended suggestions made by Tri-Met may be accomplished in conjunction with Mr. Hardt's office and the Traffic Engineering Section, without administrative rule amendments.

With this memo, I am requesting that the Traffic Engineering Section review this proposal, and act in conjunction with the Metro Region and this office if further changes are needed to the rule.

In reviewing the Barbur Blvd. administrative rule, I note that the administrative rule designating high occupancy vehicle lanes on the Banfield Freeway has not been repealed. Since the Commission has already acted to eliminate the HOV lanes, I feel that the repeal of these administrative rules is needed at this time. I am attaching the Proposed Rule Amendments, the Statement of Statutory Need, and the Notice of Proposed Rule Action with this memo. Mr. Coulter has reviewed these changes and has given the go-ahead. It is hoped that if this proposal meets to everyone's satisfaction and is approved, the Notice may be filed with the Secretary of State by May 20, and the adoption of the amendments by the Commission made at the June meeting.

DKH:lt

cc: H. S. Coulter
L. E. George
Ed Hardt
Mike Stovall
Jack Sollis

NOTED
W. E. SCHWARTZ

RECEIVED
STATE HWY ENGR
APR 21 '83
REFER TO
Schwartz
FOR

Info	Inves	R/D	D/R	Sign	Act	File
X					X	

Coulter recommendation?

4/13/83 Your recommendation Please

Scott - I believe we should proceed with the necessary rule changes, Both on Barbur Blvd. & on the Banfield as proposed by Hormann. Traffic & Metro can take care of other changes recommended by Tri-Met. — WES

81-125-1307

Contains Recycled Materials

STATE OF OREG_N

INTE. OFFICE MEMO

TO: JACK SOLLIS
Asst. Attorney General 653-3095

DATE: April 6, 1983

FROM: M. W. STOVALL
Region Maintenance Engineer

SUBJECT: BARBUR BUS LANES

To Dale
work with
Stovall on
files

NOTED
JACK L. SOLLIS

Tri-Met has requested changes be made in the configuration and operation of the Barbur bus lane. This reduces the bus lane to cover only the Hamilton Street intersection area. I have attached Tri-Met's letter.

There is a Commission resolution of November, 1977 and Administrative Rule Review No. 1111 dated September, 1977. Both of these provide for the Barbur bus lane.

Please proceed with the needed rule change so that we can alter the bus lane.

Attachment

RECEIVED

Contains Recycled Materials

81-125.1307

TRI-COUNTY
METROPOLITAN
TRANSPORTATION
DISTRICT
OF OREGON

TRI-MET
4012 SE 17th AVENUE
PORTLAND, OREGON 97202

October 26, 1982

653-3090

Ed Hardt
Metro Region Engineer
Oregon Department of Transportation
9002 S. E. McLoughlin
Milwaukie, Oregon 97222

Dear Mr. Hardt:

Tri-Met requests that the following changes be made at this time in the configuration and operation of the Barbur Bus Lane:

1. Reduce the extent of the "Bus Only" lanes to include only queue bypass lanes on both approaches to the S. W. Hamilton intersection on S. W. Barbur and on the south approach to S. W. Sheridan Street.

2. South of the S. W. Hamilton bypass lane, the existing bus lane should be striped as a median island except for left turn access to two apartment complexes approximately 1/4 mile south of Hamilton.

3. That portion of the existing bus lane between approximately S. W. Hooker and S. W. Lowell Streets should be restriped as a two-way left turn lane.

The reasons for these recommended changes are both operationally and safety related and should establish their high priority. The Barbur Bus Lane has been plagued with a high rate of serious accidents. Studies have pointed to the cause being motorist violation of posted traffic controls. While such violations can be controlled through a variety of enforcement measures, none of these can be accomplished without very high capital and/or operating costs. Tri-Met is not in a position to shoulder those costs at this time, even though we strongly recognize the need for improved transitway facilities in the southwest corridor. Until the financial resources can be found to provide a safe, permanent transit priority facilitiy in the southwest corridor, it is prudent to make these more affordable changes during the interim.

The attached sketches show conceptually how transitions into the bypass lanes should be controlled. These have been reviewed jointly by traffic engineers on our staffs and found to be workable. Actual design and implementation of these changes should, of course, be done by your staffs in your respective jurisdictions. Tri-Met is able to provide up to 1/3 of the estimated $25,000 cost of these changes, or 1/2 of the actual cost in each jurisdiction. Please keep John Lackey of my staff informed of the status of these changes, including a chance to review cost estimates, striping and signing plans prior to their implementation.

Sincerely,

Paul N. Bay, Executive Director
Planning & Development Division

PNB:js

Attachments

cc: Don Bergstrom

I. OAR 734-20-035 is amended as follows:

Barbur Boulevard

734-20-035 The following portion of Barbur Boulevard, Oregon State Highway 99W, in Portland, Oregon is designated for exclusive use by Tri-Met buses:

(1) The center (median) lane [from Southwest Front Avenue (milepoint 1.97) to Southwest Slavin Road (milepoint 3.18)] on both approaches to the S.W. Hamilton intersection and on the south approach to S.W. Sheridan Street. The exact location and configuration of these bypass lanes are to be determined by the Highway Division with input by Tri-Met.

(2) The bus lane shall be designated by signs andd pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

[(3) The designation of the bus lane shall take place upon completion of the present reconstruction project in the affected areas of Barbur Boulevard.]

II. OAR 734-20-040 is repealed.

Banfield Freeway

[734-20-040 (1) The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

(a) The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

(b) The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

(2) For purposes of this rule, "high-occupancy passenger vehicles" means a passenger vehicle carrying two or more passengers, or a properly licensed or franchised taxicab.

(3) Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

(4) The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.]

8257

March 10, 1983

The Honorable Frank Wolf
U. S. Congressman
Attention Nancy Bennett
130 Cannon Building
Washington D.C. 20515

The Oregon Department Transportation implemented high-occupancy vehicle (HOV) lanes on the Banfield Freeway in Portland in 1975. The HOV lanes were added to the freeway by narrowing the existing four lanes (two in each direction) and utilizing the shoulders. Turnouts were provided for emergency stopping in lieu of the shoulders.

The four-lane freeway was carrying 115,000 vehicles per day including 5,600 in the peak hour with heavy congestion during the peak hours. The objective of the HOV lanes was to implement the Oregon Clean Air Act Implementation Plan, provide carpooling and bus incentives, reduce congestion, improve safety, save time and fuel and provide an interim improvement.

As part of the project, ten buses were acquired and introduced as Banfield flyers, utilizing the HOV lanes. Consideration was given to four-occupant car pools but not adopted because of the low occupancy rate on the existing freeway versus the high peak hour vehicle counts. Three-occupant car pools were adopted. The HOV lanes were initially established 24 hours a day in both peak and off-peak directions.

After four months, utilization of the HOV lane was reduced from 24 hours to four hours in the peak direction from 6:00 to 10:00 a.m. and 3:00 to 7:00 p.m. The need for this adjustment was to reduce opposition to the HOV lanes since the capacity on the freeway was not required in the off-peak direction and off-peak periods.

After ten months, the hours of restriction were further reduced to three hours from 6:30 to 9:30 a.m. and 3:30 to 6:30 p.m.

After 18 months, the occupancy was reduced to two-occupant car pools in an attempt to reduce congestion and more effectively utilize the HOV lanes. Prior to converting to the two-occupant vehicles, the HOV lanes were carrying approximately 200 vehicles per lane per hour while the two normal peak direction lanes were carrying 1,800 vehicles each. In response to public pressure and to meet project objectives, the occupancy rate was reduced.

The high-occupancy vehicle lane was removed from the freeway with reconstruction of the entire freeway late in 1982. The reconstruction of the freeway required rebuilding the freeway under traffic and utilizing detours. The HOV lane is being utilized in the staging of the reconstruction of the freeway.

Once reconstructed, the Banfield Freeway will consist of a full six-lane freeway without HOV lanes, including shoulders and a two-track lightrail transit line serving the transit requirements, replacing both the Banfield flyers and HOV lanes.

The HOV lane project in Portland was successful. The Banfield Freeway continued to carry the highest occupancy rate of all the Portland freeways. The HOV lanes continued to reduce congestion and travel times and increase speeds during the peak hours. The HOV lanes in Portland were part of an overall strategy which included reduction of downtown parking, a carpool matching program, an aggressive transit ridership program that doubled the ridership of the buses, exclusive bus lanes and other features to balance the person trips in Portland between transit and auto.

If you request any further information regarding high-occupancy vehicle lanes in Portland, please feel free to contact me.

Robert N. Bothman, P.E
Assistant State Highway Engineer

RNB:lb

8259

B

HIGHWAY DIVISION

MEMO

December 7, 1982

Robert N. Bothman
Assistant State Highway Engineer

Banfield High Occupancy Vehicle Lanes

Signing was removed and the Banfield high occupancy vehicle lanes discontinued August 27.

RNB:lb

cc Edward L. Hardt
Bob Sandmann

8259

L.

VICTOR ATIYEH
GOVERNOR

Department of Transportation
HIGHWAY DIVISION
TRANSPORTATION BUILDING, SALEM, OREGON 97310

February 22, 1982

In Reply Refer to
File No.:

Mr. Dale Wilken
Division Administrator
Federal Highway Administration
The Equitable Center, Suite 100
530 Center Street
Salem, Oregon 97301

NOTED
E. S. HUNTER

Dear Mr. Wilken,

Re: Union Ave.-87th Ave. Section
Columbia River Highway
Multnomah County

It is proposed to salvage approximately 28,000 feet of concrete median barrier from the subject project. The barrier is presently in use in the median.

We will specify the barrier sections be stockpiled at the State storage yard at S.E. 82nd and Harmony Road at the direction of the engineer.

The project will be credited in the amount of $3.00 per foot which is arrived at as follows:

1. Salavage value of concrete medrian barrier equals $1.50 per foot.

2. Extra cost to contractor for hauling and stockpiling equals $1.50 per foot.

The salvage value is low due to difficulty in removing without damage.

We will initially credit the project for 28,000 lineal feet @ $3.00 = $84,000. The credit to the project will be adjusted when the actual amount is determined.

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TECHNICAL SERVICES
FEB 23 '82
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orm 734-3122

This proposal was discussed with and verbally approved at the plans-in-hand meeting by Mr. Cliff Christianson and Tom Lowe of the FHWA.

Your approval is requested.

Very truly yours,

Don Adams
Final Design Engineer

DA:rlr
cc: E. S. Hunter
D. H. Moehring
C. T. Keasey
E. L. Hardt
Jack Sullivan
D. N. Stoudenmeyer
Norman Mann

8259

L.

VICTOR ATIYEH
GOVERNOR

Department of Transportation

HIGHWAY DIVISION

Region 1

9002 SE. McLOUGHLIN, MILWAUKIE, OREGON 97222 PHONE 653-3090

October 7, 1981

In Reply Refer To
File No

c-opy
9162

Major David L. Witt
District 1, Oregon State Police
P. O. Box 66009
Portland, OR 97266

Dear Sir:

When we last talked about ramp metering on I-5 from the Broadway Bridge to the Interstate Bridge you were researching your records in order to get a better feel for your responsibilities. Since that time I've come upon a piece of information that you may not have and, in addition, I have a specific request for you.

First is City of Portland Ordinance No. 150327 (copy attached) dated September 3, 1980. This ordinance sets up funding to cover additional enforcement required by the City Police because of the April 15, 1980 withdrawal of the State Police. It specifically mentions (paragraph 11) that this funding is not to cover enforcement of, among other things, ramp metering.

As I mentioned to you, we feel that it is imperative that adequate enforcement be placed on the ramp metering system in order for it to be effective. I've attached a one-page report entitled Ramp Metering Enforcement which has been developed by Highway staff which indicates the hours of enforcement and at which locations we feel are critical for proper ramp meter operation. In essence, this calls for 6½ to 7 hours per week of police enforcement for the meters.

I need to know if you will be able to provide this level of enforcement on the I-5 system. If you like, I would be happy to discuss this topic with you at your convenience.

Sincerely,

ORIGINAL SIGNED BY
EDWARD L. HARDT

Edward L. Hardt
Region Engineer

ELH/cp
bc H. S. Coulter w/attachments
R. N. Bothman "

RECEIVED
STATE HWY ENGR
OCT 8'81
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

734-1880

ORDINANCE NO. 150327

An Ordinance creating one position of Police Sergeant (Solo Cycle) and three positions of Police Officer (Solo Cycle) and three positions of Police Officer within the Bureau of Police, Traffic Division, authorizing the transfer of $208,907 within the General Fund from Operating Contingency to the Bureaus of Police, Electronic Services and Fleet Management to provide appropriations for the necessary equipment and the provision of police services to the freeway and state highway networks within the city limits, and declaring an emergency.

The City of Portland ordains:

Section 1. The Council finds:

1. That the Bureau of Police has need for additional resources to extend their services to the freeway and state highway networks within the Portland city limits.

2. That the Bureau received a letter dated November 16, 1979 from Superintendent Williams of the Oregon State Police announcing a reduction in patrolling the freeway system within Portland which took effect April 15, 1980.

3. That all Oregon State Police conducted freeway accident investigations and most line patrol activities have ceased as of that date.

4. That Superintendent Williams projects further reductions to enable the Oregon State Police to reach its ultimate goal of removing all patrol from the freeway and state highway networks within the city limits.

5. That the Bureau of Traffic Engineering advises that there are 32 miles of freeway and 106 miles of state highway within the City's total of 1,538 miles of streets, roads and freeways.

6. That the Bureau of Police has assumed responsibility for providing accident investigation services and resolution of traffic tie-ups and spills on an on-call basis and without additional resources since April 15, 1980.

7. That filling the void left by the pullout of Oregon State Police from the City freeways with Portland Police Officers has contributed to a reduction of enforcement in other sections of the City.

8. That fatal accidents within the city limits have shown a 40% increase over the preceding year.

9. That accordingly, additional resources are required to ensure that freeway problems do not detract from the Patrol Branch ability to provide an adequate level of service in the remainder of the City.

10. That these resources will be used to provide the necessary additional personnel, patrol vehicles, electronic equipment and operational supplies in order to perform the same level of selective enforcement and traffic activities on the freeways as are provided on the rest of the City streets.

11. That the resources required to provide HOV, PUC and ramp metering enforcement services on the freeways are greater than what are proposed for authorization in this ordinance.

12. That it is, therefore, necessary to create one (1) position of Police Sergeant (Solo Cycle) and three (3) positions of Police Officer (Solo Cycle) and three (3) positions of Police Officer within the Bureau of Police and to transfer appropriations in the total amount of $208,907 to the Bureaus of Police, Electronic Servies and Fleet Management.

NOW, THEREFORE, the Council directs:

a. One (1) position of Police Sergeant (Solo Cycle) and three (3) positions of Police Officer (Solo Cycle) and three (3) positions of Police Officer (5128) are hereby created in the Bureau of Police, Traffic Division, with salary rates in accordance with the current Compensation Plan.

b. Appropriations are hereby transferred within the General Fund as follows:

GENERAL FUND	FROM	TO
Operating Contingency (20100010)	$208,907	
Transfer to other Funds -		
Electronic Services (20321415)		$ 15,660
Fleet Operating (20321300)		7,800
Bureau of Police		
Traffic Division		
11500013.110		112,778
11500048.140		21,203
11500013.150		350
11500013.170		9,689
11500013.320		4,041
11500013.340		200
11500013.350		8,357
11500013.510		18,447
11500013.540		8,090
11500013.560		2,292
TOTALS	$208,907	$ 208,907

ORDINANCE No.

c. Appropriations within the Electronic Services Operating Fund are increased as follows:

Electronic Services Fund

Resources

Transfers from Other Funds - General	$15,660
TOTAL RESOURCES	$15,660

Requirements

Capital Outlay (36000236.640)	$15,660
TOTAL REQUIREMENTS	$15,660

d. Appropriations within the Fleet Operating Fund are increased as follows:

Fleet Operating Fund

Resources

Transfers from Other Funds - General	$ 7,800
TOTAL RESOURCES	$ 7,800

Requirements

Capital Outlay (56200011.643)	$ 7,800
TOTAL REQUIREMENTS	$ 7,800

Section 2. The Council declares that an emergency exists because the positions to be created and the appropriation transfers herein described are immediately required in order that the new functions may be carried out without delay; therefore, this Ordinance shall be in force and effect from and after its passage by the Council.

Passed by the Council, SEP 3 1980

Commissioner Jordan
August 27, 1980
R.J. Shimomura: aft

Attest:

Chief Deputy Auditor of the City of Portland

Page No.

RAMP METERING ENFORCEMENT

At the September 11, 1981 Ramp Metering Technical Advisory Committee meeting, Ed Hardt requested information on what a reasonable level of ramp metering enforcement might be. Based upon data collected through traffic counts and through observation in the field on where enforcement is required, it would appear that 6½ to 7 hours per week would be adequate to keep violations within a reasonable level.

Locations which require most of the enforcement are:

SOUTHBOUND A.M.

Hayden Island and Portland Blvd. - Most effective enforcement would be in the 7:15 - 7:45 period at the Hayden Island southbound on-ramp, and between the 7:30 - 8:00 period at the Portland Blvd. southbound on-ramp. Some observation of the Lombard ramp and the Alberta ramp is desireable, but is only required for short periods.

NORTHBOUND P.M.

Enforcement during the evening ramp metering period should include concentration on both the Union and Swift on-ramps. All other on-ramps require only casual enforcement. Casual enforcement referred to here means short periods of observation as time permits.

The estimate of 6½ to 7 hours per week is based upon enforcement of one and a half hours per week for southbound a.m. and five to five and a half hours per week northbound during the evening peak period. Analysis of violations and the periods of violations shows that enforcement at any location need not be for the full period of ramp metering. The number of violations can be reduced to a minimum level by the presence of the officers at these locations during varying periods of time throughout the metering period. It is found that the greatest number of violations occur during the middle of the ramp metering operation.

The original estimate in December 1980 on the level of enforcement required for the ramp metering program was 13½ hours per week. This estimate was based on the same level of enforcement at all on-ramp locations. It has been found from data collected in the field that not all locations require the same level of enforcement.

THS:JS
02581

STATE

8259

DO

L

To: Ed Hardt
Scott Coulter
Don Bergstrom

September 18, 1981

copy
9.62

Please add this letter (attached) to the letter you received from Ed Hardt, dated September 14, 1981, subject: Ramp Metering Technical Advisory Committee Meeting. This memo completes the background information attachments with Ed's letter.

R. N. Bothman

RNB:PE

RECEIVED
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SEP 21 '81
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STATE OF OREGON
Department of Transportation
Metropolitan Branch

INTEROFFICE MEMO
Telephone: 238-8226
Date: May 4, 1981

File No: 626-1913

TO: D. R. Adams
Project Development Manager

FROM: R. N. Bothman
Administrator

SUBJECT: Ramp Metering Enforcement

I apologize for not responding to your memo of March 20th, however my choice of your three alternatives is the first - do nothing. Maybe it is appropriate that I've waited so long.

I am not aware of a problem with the lack of enforcement, on either the HOV lane or the ramp metering project, which would justify becoming embroiled with the city/state/legislative debate regarding budgets.

I suggest you pursue the issue of ramp metering and HOV enforcement with Don Bergstrom, explicitly explaining that we consider enforcement for those two traffic management projects a city responsibility.

RNB:PE

STATE OF OREGON

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INTEROFFICE MEMO

TO: MEMO TO THE FILE

DATE: September 14, 1981

FROM: EDWARD L. HARDT
Region Engineer

NOTED
H. S. COULTER

SUBJECT: RAMP METERING TECHNICAL ADVISORY COMMITTEE MEETING

On Friday morning at 8:30 AM in the Metro small conference room the Ramp Metering TAC met to discuss monitoring of the project. Attending were Don Bergstrom, Don Adams, Ron Failmezger, Tom Schwab, Vickie Rocker, Lee Gunderson and Ed Hardt.

Under the subject of monitoring, it was agreed that Region 1 would completely take over the responsibility of collecting the tapes that the ramp meter controllers produce and reduce this data to whatever format is appropriate. Previously, this work has been done by Tom Schwab's office. Tom and Ron Failmezger will jointly develop a draft proposal to define what monitoring work should be done on a continuing basis, including a monthly report. They will also look into and develop suggestions for the best way to handle the raw data generated by the ramp meters. It may be desirable to obtain some additional data processing equipment.

We also discussed police enforcement of the project. Earlier this week I discussed the State Police involvement in enforcement with District Commander Major David Witt. He took over from Major Pancrantz on August 1 of this year. He's a little bewildered by what his responsibilities are (or are not) with respect to ramp metering and presently is researching his files to give him the background about the question. He told me that up until recently State patrols were doing no ramp metering enforcement. After an article on TV about lack of enforcement, he was told by his GHQ that he should put out ramp meter patrols "for awhile". He doesn't know what "for awhile" means. As background information on this subject, I've attached a March 20 memo from Don Adams to Bob Bothman, along with City of Portland Ordinance #150327 dated September 3, 1980, which, among other things, says that the City does not have the resources to enforce the HOV and ramp metering projects and, in fact, are not doing so now.

Tom Schwab and Ron Failmezger will make a projection as to how much enforcement time and at what locations enforcement would be necessary in order to provide sufficient motorist compliance with the meters. I will send this data to Major Witt so as to help him evaluate what resources are necessary for enforcement. The Committee agreed without any discussion that some level of enforcement is absolutely necessary in order that the ramp meter project be successful. The meeting was adjourned at 9:45 AM.

ELH/cp
cc H. S. Coulter w/attachments
R. N. Bothman "
Ron Failmezger "
Don Bergstrom, City of Portland w/attachments

STATE OF OREGON
Department of Transportation
Metropolitan Branch

INTEROFFICE MEMO
Telephone: 238-8226
Date: March 20, 1981

File No: 626-1913

TO BOB BOTHMAN
Administrator

FROM DON ADAMS
Project Development Manager

SUBJECT: Ramp Metering Enforcement

We have now received a copy of City of Portland Ordinance 150327 which caused the State Police to remove all their patrols from the freeway system inside the city of Portland on March 12.

Today, there is no enforcement of the Banfield HOV lanes, the ramp metering, or of PUC permits and there is a significantly reduced level of enforcement for other traffic infractions than what was practiced before March 12. Major Pancratz has revised his coverage of the freeways based on the City of Portland ordinance as the implementing document to use in reaching the legislated mandate of 1979 to eliminate duplication of enforcement coverage.

After reading the ordinance carefully, I can detect no change in the City's position from the one they were espousing in late 1980. What appears to have happened is a lack of communication between City of Portland and the State Police upon implementation of this ordinance. Back in December 1979, the State Police and the City police started working out the details for freeway enforcement and by April 1980 had reached an agreement whereby the State Police staff would be reduced by half and the State Police would enforce traffic violations only. City police would cover disabled vehicles, accidents, tows, spills, etc. The State Police agreed that they would not reduce the coverage any further until further mandated by legislature. They were apparently expecting either a law suit from the City of Portland or some legislative action by the City of Portland to put the State Police back onto the freeway. The State Police had been working under that agreement up until March 12. Back in September, the City passed the ordinance; however, for some reason, the ordinance was not communicated to the State Police. It was not until recently that a newly appointed City police traffic lieutenant, in making contact with the State Police, uncovered the duplication and cleared up the confusion.

Since the City police now provides some level of enforcement, the State Police has pulled off totally from the freeway in the city.

Now, we have several alternatives. (1) Do nothing. I think that this is unacceptable. (2) Turn off the ramp meters, shut down the HOV lanes and just let everybody have at it and see what happens. It might cause some interesting repurcussions, but this probably wouldn't work either. (3) Try to get the State Police to back up to their commitment as stated by Superintendent Williams in their meeting of December 10 or 11th, that the State Police would enforce ramp metering and try to get that extended to the HOV lane also. Since this is a peak period type commitment, it could be scheduled out rather easily. I think the State Police could handle it. I think the problem would be whether or not they would ignore

what they perceive to be a legislative mandate to pull out of the city of Portland. (4) See if we can persuade the City of Portland to provide the necessary enforcement for ramp metering and HOV lanes. It seems that this would be a more persuasive effort than anything else unless we could tie it to other freeway projects, namely the Greeley/I-5 ramps, and convince the City that the ramp metering is tied to that project. (5) Work with the City and the State Police agencies to develop some legislation that would clarify this problem and would provide State Police coverage on the freeway systems within the city. (6) Maybe we could get the Multnomah County Reserves to come out on a periodic basis and enforce ramp metering for us for a fee.

I really think that the issue will have to resolved on a permanent basis politically. The police may be able to agree to temporary enforcement pending political resolution, either by administrative act or legislation.

I would appreciate your assistance in determining what course of action we should follow to secure enforcement of HOV lanes and ramp meters.

po

From: BUREAU OF TRAFFIC ENGINEERING
420 S.W. Main St.-Portland, Or. 97204

DATE Mar. 13, 81

To: Don Adams

[ ] FOR YOUR ATTENTION & REPLY
[X] FOR YOUR INFORMATION
[ ] PLEASE INVESTIGATE & REPORT
[ ] PLEASE ANSWER OR ARRANGE

Note: As per #11 this ord. does not cover enforcement of ramp metering.

Dick Lee

MA PDM PDE FFM SPC
GOCT - METRO

MAR 19 1981

BM PAR PPC FILE T/A

#2257

L

STATE OF OREGON

INTEROFFICE MEMO

FILE: CON

TO: E. S. Hunter
Asst. State Highway Engineer

DATE: March 23, 1981

FROM: Vern Skoog
Controller

SUBJECT: Contractors Release Form
Banfield H.O.V. Lanes Demonstration Project

NOTED
E. S. H[illegible]R

Please sign the attached Contractor's Release for the above project. The original Contractor's Release did not have the contract amount completed. Submission of this form will enable FHWA to release the remaining funds due.

JP:cw

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STATE OF OREGON
Department of Transportation
Metropolitan Branch

INTEROFFICE MEMO
Telephone: 238-8226
Date: December 12, 1980

TO: H. S. COULTER
State Highway Engineer

File No: INT 5

FROM: R. N. BOTHMAN
Administrator

NOTED
H. S. COULTER

SUBJECT:

You should be aware that several current projects and decisions are being questioned by the new Mayor of Portland.

Neither the Planning Bureau or Bureau of Streets and Structures seem to have a good input to the Mayor's office at this time. The Traffic Bureau, via Don Bergstrom, seems to have a major input.

The attached five items indicate some of the areas which are being questioned by the new Mayor.

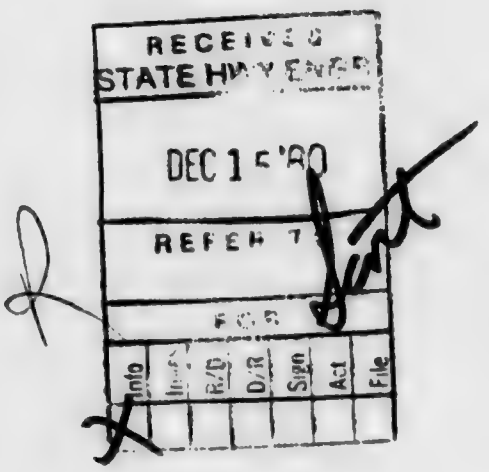
You might be interested that in addition to questioning the East Fremont Interchange connection, the Banfield HOV lane, the issue of a fire hydrant/water line in the Banfield and I-205 Freeways, the ramp metering project, and use of right-of-way under freeway structures; the Mayor has questioned the priority of all City of Portland projects; and more specifically, the Greeley/I-5 ramp project.

The purpose of this memo is to advise you of the discussions that are occurring.

RNB:nyr

cc: E. L. Hardt

Attachment



STATE OF OREGON
Department of Transportation
Metropolitan Branch

INTEROFFICE MEMO
Telephone: 238-8226
Date: December 11, 1980

TO: The FILE

File No: INT 5

FROM: R. N. Bothman
Administrator

SUBJECT: Don Bergstrom Meeting
December 10, 1980

Discussed the following five items with Don Bergstrom.

1. Discussed the connection of the East Fremont Interchange to Vancouver and Williams Avenue. Don asked that we take a look at the alternatives to making that connection. I advised him that this was a City project handled by CH2M/Hill consultants and the Bureau of Public Works and that he should work with them to look at the alternatives which were reviewed. I advised him that eight years ago I had worked out with the Humboldt and Boise neighborhoods an acceptable connection; however, that approach was vetoed at City Council and that the issue should be reactivated by City Council, not ODOT.

2. Discussed the Banfield HOV lane. Don requested information relative to the operating characteristics of the HOV lane; i.e., traffic volumes, speeds, capacities, etc. Don requested that I submit a letter to DEQ to determine if they would hold us to the permit to construct agreement. I advised him I would not, and no one in the Metro staff should proceed with any activities which in any way deal with the reassessment of the HOV lane for any reason. without my approval. Any action to reconsider or otherwise even look at the HOV lane operation at this point shall be initiated by the City.

3. Discussed the City's Fire Bureau request for a water line with hydrants in the Banfield Freeway. Early indicated to Don, that we had thoroughly considered the issue and had informed the City that a system of fire hydrants in the freeway was not included in the project and would not be included in the project. We have agreed to work with the Fire Bureau to establish a system of hydrants on the adjacent streets and the cross streets to serve the freeway. Don Adams should follow-up the freeway design to see that we do a better job than accomplished on the I-205 design; more in line with the design accomplished on I-5 by WDOT. WDOT included gates and breaks in the noise barriers and fencing to provide access to the hydrants. I do not think we have accomplished that on I-205. We should assure that the hydrants are established as requested,within reason, by the Fire Bureau and are readily accessible to the freeway. Again, no further action is required with any initiation of a request to be provided by the City. I advised Bergstrom we were fixed on the total amount of dollars for the project and our problem would be weighing the justification for the fire hydrant system versus some other component of equal value (roughly a million dollars) on the freeway. As an example; we would have to eliminate our curvature correction at 33rd Avenue, eliminate the auxiliary lane between Sandy and Holladay, eliminate lighting, or eliminate some other feature of the freeway to come up with the million dollars. I advised him there was a problem with both federal funds

NOTED
H. S. COULTER

and with state funds. We would certainly entertain the proposal to include the fire protection if the City were to provide the e(4) funds and to provide the local match. The City would also have to provide for continuing maintenance of the system which the Water Bureau has refused to do. The issue is really the City's. No further work should be accomplished on the issue of a water system in the freeway.

4. Discussed the ramp metering project. Advised that I was proceeding on the basis of initiating the project January 7 with the minimum enforcement we could muster from the State Police. I advised that a response to the Mayor would be forthcoming from the Governor and was being handled at that level, but that my recommendation would be to proceed with the minimum enforcement.

5. Discussed the use of State Right of Way under the Morrison Bridge adjacent to Water Avenue by the City for a parking lot. I advised Don that I had discussed this subject with George Yerkovich, City of Portland; Dave Hill, City of Portland; Tom Benjamin, City of Portland; and now Don Bergstrom, City of Portland. I suggested that he contact and get the City's act together. I further advised that upon the advice of Dave Hill I advised the local owner that the property was available for lease with the same stipulations we provided for the City.

RNB:nyr

cc: D. R. Adams
V. L. Rocker
T. H. Schwab
M. J. Klotz
K. D. Limbocker
R. A. Sandmann

259

STATE OF OREGON
Department of Transportation
Metropolitan Branch

INTEROFFICE MEMO
Telephone: 238-8386
Date: July 18, 1980

File No: 7877

TO: MAX J. KLOTZ
Program Manager

FROM: Earl Mershon
Staff Assistant

SUBJECT: Banfield HOV Lane

I talked to Judith Kenny of the City Planning Bureau regarding the city's action towards assuming enforcement responsibility on the Banfield HOV Lane Project. Judith said that the most recent activity was a meeting on July 7 between herself and Steve Dotterrer of the City Planning Bureau; Don Bergstrom, City Traffic Engineer; and Bill Rhodes, Administrative Assistant in Commissioner Jordan's office. The result of that meeting is that Don Bergstrom will research prior agreements between the city and state regarding enforcement responsibility for the Banfield HOV Lane. Also, a budget package is to be prepared that will allocate funds to support enforcement for the HOV lane project and the I-5 North Ramp Metering Project (Broadway - Hayden Island). As yet, there apparently has been no effort towards putting this budget package together.

I asked Judith Kenny if there was any schedule for submitting the budget package to the City Council. She said that the city does not have a date for accomplishing this and that there is presently no follow-up meeting scheduled on this effort. She said that various city officials have put out feelers to FHWA and ODOT regarding the possible use of federal funds to support the enforcement for these projects.

I asked Mainor Holmes to research prior agreements between the city and state that would apply to the enforcement responsibility on the HOV Lane. After researching the files, Mainor told me that there was no city-state agreement written for the HOV Lane Project.

Mainor also looked at the public hearing transcripts for the project and the FHWA Final Report which contain references to the State Police having enforcement responsibility on the HOV Lane Project. However, there are no binding statements that commit the state to maintaining enforcement on the HOV Lane indefinitely.

In view of the fact that the violation rate on the HOV Lane has not increased appreciably up to now, I will not pursue this pending further actions by the city.

ECM:hw

cc: R.N. Bothman
T.H. Schwab
D.E. Fantz
Robin Brooks
T.A. Spence
Mainor Holmes

N

82-1

D 2

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

January 30, 1979

TO: Oregon Transportation Commission

FROM; F. B. Klaboe
Director of Transportation

SUBJECT: Carpool Occupancy Resolution, Banfield HOV Lanes

On the agenda for the February 8 telephonic Commission meeting will be a resolution revising the required occupancy rate for the Banfield HOV Lanes from three to two persons.

I recommend your approval of the adoption of this resolution.

FBK:fn

bc Cecil Head
R. N. Bothman
George Bell
Jack Sollis
H. S. Coulter

PROPOSED RESOLUTION

WHEREAS, ORS 487.905 (1)(b) provides that the Department of Transportation, with respect to highways or streets under its jurisdiction may designate lanes to be used by buses and high-occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation; and

WHEREAS, the Banfield Freeway, Oregon Primary Highway Number 2 is under the jurisdiction of the Department of Transportation; and

WHEREAS, the designation of lanes on the Banfield Freeway for exclusive use by buses and high-occupancy passenger vehicles, including properly licensed or franchised taxicabs, would help to conserve energy by encouraging carpooling and would facilitate public transportation; and

WHEREAS, the Commission has determined that since taxicabs are an essential ingredient of Portland's transportation system, their operation without unnecessary restraint would facilitate public transportation.

NOW, THEREFORE, Resolution Number 256, adopted by the Oregon Transportation Commission on November 25, 1975, is hereby amended to read as follows:

1. The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

   a. The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

   b. The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

2. For purposes of this rule, "high occupancy passenger vehicles" means a passenger vehicle carrying two or more passengers, or a properly licensed or franchised taxicab.

3. Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

4. The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

This resolution shall be entered in the minutes and records of the Oregon Transportation Commission this _____day of _____, 1979 as Misc. Resolution No._____.

STATE OF OREGON

INTEROFFICE MEMO

Technical Services — DEPT.

238-8226 — TELEPHONE

RECEIVED
JAN 30 1979
LEGAL

TO: F. B. KLABOE, Director
Department of Transportation

DATE: January 26, 1979

FROM: for R. N. BOTHMAN
Administrator

SUBJECT: Proposed Resolution
Carpool Occupancy Requirement Change
Banfield H.O.V. Lanes

The public hearing required by the Administrative Procedures Act for the proposed rule change revising the required occupancy rate for the Banfield HOV Lanes from three to two persons was held January 16, 1979.

Although there was testimony against the HOV Lanes, there was no testimony adverse to the proposed change.

Included as a part of the Hearing Study Report which is attached, is the staff recommendation for adoption of the proposed resolution.

If you concur, will you please have this item placed on the agenda for the February 8, 1979 O.T.C. telephone meeting for adoption.

MJK:pq

cc: Cecil Head

Is this resolution OK

JCS 1-30-79

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HEARING STUDY REPORT

Two-Person Carpools, Banfield HOV Lanes

Portland, Oregon
January 29, 1979

On January 16, 1979, 7:30 p.m., a hearing was held in the Conference Room of the Oregon Department of Transportation's Office Building at 5821 N.E. Glisan Street, Portland, Oregon.

The purpose of the hearing was to receive testimony on a proposed rule change that would change the occupancy requirement for passenger vehicles using the Banfield High Occupancy Vehicle (H.O.V.) Lanes from three persons to two.

Thirty-eight persons attended the hearing. Fifteen people presented testimony, however, only four of those even mentioned the occupancy requirements which was the purpose of the hearing. The other eleven used the hearing as a vehicle to express their dislike of the HOV lanes, the freeway, Tri-Met, the police, or the government.

All of the four that referred to the occupancy requirements were in favor of the change (even though some were opposed to the HOV Lane concept). Of those, two were private citizens, one was State Representative George Starr, who said that the results of a questionnaire he had sent to his constituants indicated that four out of five people preferred to have the requirement reduced to two occupants. The other was a representative from the City of Portland who presented a letter from Portland Mayor Neil Goldschmidt supporting the retention of the HOV Lanes and the reduction of the occupancy requirements.

Hearing Study Report
Two-Person Carpools,
Banfield HOV Lanes
January 29, 1979

Three letters have been received since the hearing. Two of these support the change (one was from a private citizen, the other was from the Automobile Club of Oregon). The third letter wanted the lane restrictions eliminated completely.

Editorials in the Oregonian and Oregon Journal appearing since the hearing support retention of the HOV Lanes and reduction of the occupancy requirements.

To Summarize

The hearing did not bring out any support for retaining the three person occupancy requirement. There was support for revising the requirement to two occupants.

The majority of the testimony did not address the issue in question but wanted elimination of all restrictions.

Staff Recommendations

Adopt the proposed resolution revising the occupancy requirements from three persons to two.

pq

9

Department of Transportation
METROPOLITAN BRANCH
5821 N.E. GLISAN, PORTLAND, OREGON 97213

June 12, 1979 Telephone: 238-8386

Richard J. Brasher, District Engineer
Colorado State Dept. of Highways
2000 S. Holly
Denver, CO 80222

Attn: Randy Russell

As Earl Mershon discussed with you by phone, we have reviewed the Banfield HOV Lane information on the enclosed "Draft High Occupancy Vehicle Matrix". The information you have shown on the matrix covers operation of the project from December 1975 to June 1977. During that time, the HOV Lanes were open only to buses and three-person carpools during the restricted hours.

On February 12, 1979 the occupancy requirement for using the HOV Lanes was revised to allow two-person carpools. For a comparison, we have entered in "red" some comparable statistics compiled during the initial three months of two-person carpool operation.

For your information, I have attached a copy of our current Banfield HOV Lane traffic counts. Please contact Earl Mershon at (503) 238-8386 if you have any questions about the information we have provided. I would like to receive a copy of your finished matrix.

R.N. BOTHMAN
Metropolitan Administrator

js

cc: F.B. Klaboe
M.J. Klotz
E.C. Mershon

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Form 734-3122

8254

April 26, 1979

TO: Oregon Transportation Commission

FROM: F. B. Klaboe
Director of Transportation

SUBJECT: Banfield Freeway HOV Lanes

At your meeting on February 8, you adopted a resolution revising the required occupancy rate in vehicles using the Banfield HOV lanes from three to two persons. That revision was put into effect on February 12.

Two months have now elapsed since that revision. The Metropolitan Branch has monitored the traffic using both the HOV lanes and the regular travel lanes since the revision. The attached tabulation of peak hour traffic counts shows counts taken in the first week of March 1979 and the first week of April 1979 under the two-person occupancy requirement. Also shown is an average of counts taken during the last six months of 1978 under the three-person occupancy requirement.

Summarizing the attached sheet, the traffic counts taken since the revision in February show a dramatic average increase in both people (1290 to 2410) and vehicles (231 to 827) using the HOV lanes during peak traffic hours. The number of vehicles using the regular travel lanes has also increased. Speeds are up on both the HOV lanes (42 to 45 MPH) and the regular travel lanes (30 to 41 MPH). The number of two-occupant vehicles has increased; however, the number of vehicles with three or more occupants has slightly decreased. The violation rate in the HOV lanes has substantially decreased (25% to 6%) since the revision.

Attach.

bc H. S. Coulter
R. N. Bothman
George Bell

ECM:RNB:ke fn

STATE OF OREGON

INTEROFFICE MEMO

ODOT METRO — DEPT.

238-8226 — TELEPHONE

TO: F. B. Klaboe
Director

DATE: April 20, 1979

FROM: R. N. Bothman
Administrator

SUBJECT: Banfield Freeway HOV Lanes

Attached for your consideration is a draft to the OTC advising them of the outcome of their actions in February to reduce the three occupant car pool on the Banfield HOV lane project to a two occupant car pool.

The conclusions have now been reviewed during the first week in March and the first week in April and give us a fair indication of a substantial improvement in the overall freeway operation, as noted by the speeds in both the HOV lanes and, more significantly, in the regular travel lanes and the better utilization of the HOV lane. Of interest also is the substantial increase in volumes, meaning that the freeway has freed up and is now drawing additional cars off the parallel arterial streets.

RNB:ke

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON, D.C. 20590

IN REPLY REFER TO:
HCP-41

Mr. E. S. Hunter
Oregon Department of Transportation
State Highway Building, Room 307
Salem, Oregon 97310

HOV Lanes
Portland

Dear Mr. Hunter:

The final report submitted under Contract No. DOT-FH-11-9127 is accepted and the technical requirements of the contract have been completed.

Please complete and submit the enclosed forms with your final statement of all costs incurred and to be claimed. Your prompt action is requested so that we can proceed with the administrative actions to close the contract, including the making of final payment.

In addition, pursuant to the Patent Rights Clause of your contract, please certify whether any invention, improvement, or discovery (whether or not patentable), relating to the work performed under the contract, has been conceived or first reduced to practice. Please note that paragraphs (f) and (g) of General Provision No.35 require a negative certification, if applicable, prior to final payment.

Sincerely yours,

L. D. McCollum, Chief
Research Contract Administration
Branch
Office of Contracts and Procurement

3 Enclosures:
Contractor's Release
Contractor's Inventory Schedule
Contractor's Assignment of Refunds,
Rebates, Credits and Other Amounts

RECEIVED
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DEPARTMENT OF TRANSPORTATION

CONTRACTOR RELEASE

CONTRACT NO.

CONTRACTOR (Name and address)

SUM OF

DOLLARS ($

In consideration of the sum stated above, which has been paid or is to be paid to the Contractor, or his assignees, the Contractor, upon payment of the said sum by the UNITED STATES OF AMERICA (hereinafter called the Government), does remise, release, and discharge the Government, its officers, agents, and employees, of and from all liabilities, obligations, claims, and demands whatsoever under or arising from the said contract, except:

1. Specified claims in stated amounts or in estimated amounts where the amounts are not susceptible of exact statement by the Contractor, as follows:

2. Claims, together with reasonable expenses incidental thereto, based upon the liabilities of the Contractor to third parties arising out of the performance of this contract, which are not known to the Contractor on the date of the execution of this release and of which the Contractor gives notice in writing to the Contracting Officer within the period specified in the said contract; and

3. Claims for reimbursement of costs (other than expenses of the Contractor by reason of his indemnification of the Government against patent liability), including reasonable expenses incidental thereto, incurred by the Contractor under any provisions of the said contract relating to patents.

The Contractor agrees, in connection with patent matters and with claims which are not released as set forth above, that he will comply with all provisions of the said contract, including without limitation those provisions relating to notification to the Contracting Officer and relating to the defense or prosecution of litigation.

IN WITNESS WHEREOF, this release has been executed this _____ day of _____, 19____.

_____
(Contractor)

WITNESSES

_____ BY _____

_____ TITLE _____

NOTE: *In the case of a corporation, witnesses are not required, but the certification below must be completed.*

CERTIFICATE

I, _____, certify that I am the _____ secretary of the corporation named as Contractor in the foregoing release; that _____ who signed said release on behalf of the Contractor was then _____ of said corporation; that said release was duly signed for and in behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

(CORPORATE SEAL)

_____

GPO 926-721

FORM DOT F 4220.4 12-71

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Form FHWA-1329
(Rev. 12-68)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

CONTRACTOR INVENTORY SCHEDULE

(Administrative Manual, Vol. 31, Chapter VI)

SEE INSTRUCTIONS ON REVERSE

CONTRACTING OFFICER'S NAME

ADDRESS

CONTRACT NUMBER

DATE

PAGE OF PAGES

CONTRACTOR

STREET ADDRESS

CITY AND STATE

LOCATION OF MATERIAL

ITEM NO. (a)	DESCRIPTION (b)	CONDITION (Use code) (c)	QUANTITY (d)	UNIT OF MEASURE (e)	ACQUISITION COST PER UNIT (f)	ACQUISITION COST TOTAL (g)

CONTRACTOR INVENTORY SCHEDULE CERTIFICATE

The undersigned, individually and as an authorized representative of the contractor, certifies that he has examined this Inventory Schedule, page numbers to , inclusive, dated , that in the exercise of his best judgment and to the best of his knowledge, basedupon information believed by him to be reliable, said Schedule has been prepared in accordance with applicable instructions; that the inventory described therein is allocable to the designated contract and is located at the places specified and that the costs shown on said Schedule are in accordance with the contractor's books of account.

NAME OF CONTRACTOR	BY *(Signature of authorized official)*	TITLE	DATE

Existing stocks of FH-1329 (6-67) will be used.

CONTRACTOR'S ASSIGNMENT OF REFUNDS, REBATES,
CREDITS, AND OTHER AMOUNTS
(SEP. 1962)

Pursuant to the terms of Contract No. _____ and in consideration of the reimbursement of costs and payment of fee, as provided in the said contract and any assignment thereunder, the _____ _____(hereinafter called the contractor) _____ _____(Contractor's name and address) does hereby:

1. Assign, transfer, set over and release to the UNITED STATES OF AMERICA (hereinafter called the Government), all right, title and interest to all refunds, rebates, credits, and other amounts (including any interest thereon), arising out of the performance of the said contract, together with all the rights of action accrued or which may hereafter accrue thereunder.

2. Agree to take whatever action may be necessary to effect prompt collection of all refunds, rebates, credits, and other amounts (including any interest thereon) due or which may become due, and to promptly forward to the Contracting Officer checks (made payable to the Treasurer of the United States) for any proceeds so collected. The reasonable costs of any such action to effect collection shall constitute allowable costs when approved by the Contracting Officer as stated in the said contract and may be applied to reduce any amounts otherwise payable to the Government under the terms hereof.

3. Agree to cooperate fully with the Government as to any claim of suit in connection with refunds, rebates, credits, or other amounts due (including any interest thereon); to execute any protest, pleading, application power of attorney, or other papers in connection therewith; and to permit the Government to represent him at any hearing, trial, or other proceeding arising out of such claim or suit.

IN WITNESS WHEREOF, this assignment has been executed this _____ day of _____ 19_____.

_____
Contractor

WITNESSES

_____ BY_____

_____ TITLE_____

(NOTE: In the case of a corporation, witnesses are not required, but the following certificate must be completed).

I, _____, certify that I am the _____
(official title)
of the corporation named as Contractor in the foregoing assignment; _____who signed said assignment on behalf of the Contractor was then _____ of said corporation; that
(official title)
said assignment was duly signed for and in behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

_____

(CORPORATE SEAL)

VICTOR ATIYEH
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310

February 20, 1979

Whitcomb Crichton
6204 N. DePauw Street
Portland, OR 97203

Dear Mr. Crichton:

Your letter indicates that you have closely followed developments on the Banfield during recent years. I have never been a particular supporter of the HOV lanes although it may have been a worthwhile experiment. You are correct that only 7% of the vehicles on the Banfield are using the HOV lanes; however, in defense of HOV it must be pointed out that that 7% represents 21% of all the persons using the Banfield during rush hours. The rule change being considered by the Transportation Commission allowing a two person minimum should result in greater use.

The ultimate solution to the traffic problem on the Banfield, I think, lies in the proposals that are now pending in the Legislature. These proposals include further widening of the Banfield freeway and the construction of a light rail system to substitute for bus transportation. I am supporting this proposal because I do think it is a more comprehensive solution to a very real problem.

Thank you for informing me of your position in this matter. I hope you will lend your support to the position that I am advocating to the Legislature.

Sincerely,

Victor Atiyeh
Governor

VA/jg

Receipt Copy

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

IN REPLY REFER TO
FILE NO:

February 8, 1979

Hon. Norma Paulus
Secretary of State
121 State Capitol
Salem, OR 97310

Attention: Administrative Rule Section

Dear Mrs. Paulus:

Attached for filing is a certified copy of a permanent administrative rule revising the required occupancy rate for the Banfield Freeway high occupancy vehicle lanes from three to two persons.

Please publish in the March 1, 1979, issue of your Administrative Rule Bulletin.

Very truly yours,

C. W. Head

C. W. Head
COMMISSION SERVICES

fkn

Att.

FILED
FEB 8 1979
NORMA PAULUS
SECRETARY OF STATE

M 731-0027

Receipt copy

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

IN REPLY REFER TO
FILE NO:

February 8, 1979

Mr. Thomas Clifford
Legislative Counsel
S101 Capitol Building
Salem, OR 97310

Dear Mr. Clifford:

Attached is a copy of a permanent administrative rule adopted by the Oregon Transportation Commission today revising the required occupancy rate for the Banfield Freeway high occupancy vehicle lanes from three to two persons. We are also enclosing a copy of the Statement of Need.

A copy of the proposed rule was filed in your office on December 13, 1978. A hearing was held on January 16, 1979.

We are filing a certified copy of this permanent rule with the Secretary of State today.

If you have any questions, please contact Jack Sollis, Chief Counsel, at 4259.

Very truly yours,

C. W. Head

C. W. Head
COMMISSION SERVICES

fkn

Atts.

4307

FORM 731-0027

RESOLUTION

WHEREAS, ORS 487.905 (1)(b) provides that the Department of Transportation, with respect to highways or streets under its jurisdiction may designate lanes to be used by buses and high-occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation; and

WHEREAS, the Banfield Freeway, Oregon Primary Highway Number 2 is under the jurisdiction of the Department of Transportation; and

WHEREAS, the designation of lanes on the Banfield Freeway for exclusive use by buses and high-occupancy passenger vehicles, including properly licensed or franchised taxicabs, would help to conserve energy by encouraging carpooling and would facilitate public transportation; and

WHEREAS, the Commission has determined that since taxicabs are an essential ingredient of Portland's transportation system, their operation without unnecessary restraint would facilitate public transportation.

NOW, THEREFORE, Resolution Number 256, adopted by the Oregon Transportation Commission on November 25, 1975, is hereby amended to read as follows:

1. The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

   a. The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

   b. The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

2. For purposes of this rule, "high occupancy passenger vehicles" means a passenger vehicle carrying two or more passengers, or a properly licensed or franchised taxicab.

3. Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

4. The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

This resolution shall be entered in the minutes and records of the Oregon Transportation Commission this 8th day of February, 1979 as Misc. Resolution No. 256B.

BEFORE THE OREGON TRANSPORTATION COMMISSION

OF THE STATE OF OREGON

In the matter of the amendment of the rule defining a High Occupancy Vehicle as a passenger vehicle carrying two or more passengers	)))))	STATEMENT OF NEED

The Oregon Transportation Commission intends to adopt an amendment to Commission Resolution Number 256A relating to the establishment of the Banfield HOV lanes. This rule shall be adopted under the Administrative Procedures Act as amended and effective November 25, 1977.

(a) Legal authority: ORS 487.905, ORS 184.619

(b) Need for rule: The Department of Transportation has determined that it would be in the public interest and would facilitate the use of the Banfield Freeway to revise the definition of a high occupancy vehicle to a passenger vehicle carrying two or more passengers, or a properly licensed or franchised taxicab. This rule amendment changes the occupancy requirement of a high occupancy vehicle from three or more passengers to two or more passengers.

(c) Documents relied upon: Commission Resolution Number 256A.

Oregon Journal, January 19, 1979

Opinion

HOV lane valuable

State Transportation Department planners may have to re-name the High Occupancy Vehicle lane on the Banfield Freeway, but by all means they should retain the rush-hour express lanes.

Highway planners have recommended permitting vehicles with only two persons to qualify to use the express lanes, to encourage greater use of what had been envisioned as a car-pool come-on.

Studies show that less than 6 percent of the vehicles on the Banfield during rush hours use the special lanes, because only that many carry three or more passengers required as a minimum under the express lane experiment.

While two passengers may not be "high occupancy," it will have to do, for the lanes should be retained at all costs. Certainly the revision will permit more commuters to use the special diamond-marked routes.

As it is now, while the number of vehicles on the special lanes is low, they carry about one-fifth of all the people who are moved on the Banfield during morning and afternoon commuting hours.

The reason for retaining the lanes, despite the constant rain of criticism, is simple: In the future, more, not less, car pooling and mass transit will be necessary — even required — in Portland.

Fuel prices are escalating, air pollution abatement is not yet acceptable and the commuter routes are more crowded than ever.

The HOV lanes are not well liked, but that is because the majority of people still refuse to use them.

Opening the lanes to more vehicles could easily entice the grumblers down the diamond path.

THE OREGONIAN, THURSDAY, JANUARY 18, 1979

Keep Diamond Lane

Reduction from three to two of the minimum number of persons in automobiles permitted on the Banfield Expressway "Diamond Lane" during rush hours is an admission the traffic restriction hasn't been doing as well as intended. But the partial failure doesn't mean the conservation effort should be abandoned.

Drivers, frustrated by congestion on two lanes during peak hours while the third, high-occupancy-only lane is sparsely used, are demanding an end of the special privilege for multi-rider cars. Their views were clearly and vigorously expressed at a hearing on the proposal to reduce the number of passengers required in a car for use of the HOV lane. They said the special lane created unsafe conditions for cars on the other two lanes, but spokesmen for the state Transportation Department pointed out statistics do not support that argument and, in fact, the Banfield has fewer accidents than three other major freeways in the state.

It is true, as the protesters say, that the HOV lane is sparsely used in terms of cars. Less than 6 percent of the vehicles during the rush hours use the lane, but it does move approximately 20 percent of the individuals using the Banfield. The other 80 percent continue to underuse their automobiles.

That latter point is why the lane exists. One-person cars are predominant on Portland's streets and highways. And that means extravagant petroleum use, which in turn continues an imbalance of trade that weakens America's dollar abroad and fuels inflation, not to mention the serious pollution created.

Evaluation of the HOV effort of the Banfield is continuing. That's why this latest proposal has come up. The lane cannot do what social pressure might, but there is logic in reducing the minimum from three to two, since three passengers was an arbitrary figure to start with: It should encourage more car pools. In 1975, when the HOV lane was initiated, only 1.2 percent of the vehicles on the Banfield were three-occupant or more, but in March 1978, that figure increased to 4.9 percent.

That success may appear slight, but it shows the HOV lane has not been a total failure. With the two-person rule, drivers now wasting fuel and underutilizing their investment may talk a friend into leaving his or her car at home. That would permit them to use the Diamond Lane and lessen congestion on the other two lanes.

7877

January 17, 1979

Laurel Wentworth
Portland Planning Bureau
424 S.W. Main
Portland, Oregon 97204

George Starr, State Representative
State Office Building
Salem, Oregon 97310

Robert Bothman
Metro Branch Administrator
Department of Transportation
5821 N.E. Glisan
Portland, Oregon 97213

TMA PDM PDE TSE SPC
ODOT - METRO
JAN 19 1979
AM PPS FILE T/A

RE: HOV Lanes - Banfield Freeway

An article in today's Oregonian describing the January 16 meeting staged by the Department of Transportation prompted me to put to paper this letter which I write in my mind every morning as I struggle along the Banfield Freeway towards city center.

The restrictions on use of the HOV lane should not be reduced, but should be eliminated for the following reasons:

1. All motorists pay taxes to support this lane.

2. I estimate, based on observation, that less than one percent of the peak hour traffic uses this lane (legally).

3. Traffic in nonrestricted lanes is slower and more congested due to being limited to two lanes.

4. Salaries to and expenses for police officers to enforce restricted use are an added burden on the taxpayers.

Of the above points, I feel the second is the most valid reason to abolish the restricted use lane. I have used this lane at various peak hours from 6:30 to 9:30 and have <u>never</u> seen enough traffic in the restricted lane (legal and illegal included) to warrant continuation of the restrictions.

Frankly, I am disappointed that the involved government agencies and officials have not noticed and remedied this waste without prompting from concerned citizens.

Sincerely,

Christi A. Cawood
Star Route, Box 90
Brightwood, Oregon 97011

BANFIELD HOV LANE HEARING

January 16, 1979
@ 7:30 p.m.

BOTHMAN:

Good Evening -

It is now 7:30 and I will commence the hearing.

My name is Bob Bothman. I am the Administrator of the Metropolitan Branch of the Oregon Department of Transportation. The Director of the Department has designated me to serve as the Hearing Officer this evening.

The purpose of this hearing is to consider a department rule change that would allow passenger vehicles with two or more occupants, use of the Banfield H.O.V. Lanes during the hours of restriction.

I will now ask Max Klotz to read the Resolution that the Oregon Transportation Commission will act on at its February meeting. -

Klotz reads Resolution

BOTHMAN:

Thank you - Before taking testimony I would like to briefly review the history of the HOV Lanes.

The HOV Lanes were created in an attempt to address the congestion problem on the freeway by improving its people carrying capacity.

The Lanes were implemented as a part of the freeway resurfacing project by revising the lane striping to add another lane each direction where possible. The additional lanes were then designated as HOV Lanes. No existing lanes were taken for conversion to HOV use.

When first implemented in December 1975, the lanes were for HOV use 24 hours a day, 7 days a week. After three months operation, the restriction was reduced to four hours a day, week days only. Then in October, 1976

PROPOSED RESOLUTION

WHEREAS, ORS 487.905 (1)(b) provides that the Department of Transportation, with respect to highways or streets under its jurisdiction may designate lanes to be used by buses and high-occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation; and

WHEREAS, the Banfield Freeway, Oregon Primary Highway Number 2 is under the jurisdiction of the Department of Transportation; and

WHEREAS, the designation of lanes on the Banfield Freeway for exclusive use by buses and high-occupancy passenger vehicles, including properly licensed or franchised taxicabs, would help to conserve energy by encouraging carpooling and would facilitate public transportation; and

WHEREAS, the Commission has determined that since taxicabs are an essential ingredient of Portland's transportation system, their operation without unnecessary restraint would facilitate public transportation.

NOW, THEREFORE, Resolution Number 256, adopted by the Oregon Transportation Commission on November 25, 1975, is hereby amended to read as follows:

1. The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

a. The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

b. The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

2. For purposes of this rule, "high occupancy passenger vehicles" means a passenger vehicle carrying two or more passengers, or a properly licensed or franchised taxicab.

3. Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

4. The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

This resolution shall be entered in the minutes and records of the Oregon Transportation Commission this _____day of _____, 1979 as Misc. Resolution No._____.

BANFIELD HOV LANE HEARING

January 16, 1979
@ 7:30 p.m.

TESTIMONY RECEIVED:

Gary Eaton:

2823 N.E. 13th
Gresham, Oregon 97030

I feel that the buslane as devised by the City of Portland is about the most disgusting situation that I have seen in a long time. The City seems to fail to realize that it brings about the present the bus lane the working taxpayers, while going to work, are labeled criminals and given a $27 fine for driving in the wrong lane on the freeway. I think it is time that the people going to work should at least have the privilege of going in whatever lane they want to go into, because they are the ones who are paying the road taxes and the real offenders who are speeding, or drunken drivers, they should be the ones that are captured and I don't think that they should be in any better situation than someone who is not a criminal.

My recommendation is that I think it should be abolished - totally.

Jerry A. Hoffman

715 N.E. 92nd Ave.
Portland, Oregon

My name is Jerry Hoffman and I would first like to start out reading from the Oregon Constitution, Article I, Section 20: Equality of privileges and immunities of the citizens. No law shall be passed, granting to any citizen, or class of citizens, privileges for immunities which upon the same term shall not equality belong to all citizens. That is Article I, Section 20 of the Oregon Constitution.

I would like to relate an incident, I watched a commercial on television, which the Department of Transportation put out which says drive like your life depends on it. I certainly do when I drive the Banfield Freeway. I remember one incident when there was two lanes of traffic, bumper to bumper, burning unnecessary gas, causing pollution, rear-end collisions, and there is no place to pull over in case you run into a problem. Because at one time on interstate highways demands eight foot median for a vehicle to pull over in an emergency in case they have a flat tire or carburetor trouble or whatever, They eliminate that now for the super privilege bus lane, which is unconstitutional and supersedes any statute if you go to the constitution law. The only one who benefits from this are the insurance companies and the banks when cars smash up and people have to refinance them, and then go through the total insurance to finance another car, and we are looking to this too. And this is a very safety hazard, because I had come to two close fatal accidents on the Banfield Freeway, and I try to stay off that road as much as possible.

(Jerry Hoffman, cont'd)

And two close situations were to commit death - a motorcycle had no room to pull over and I almost clipped him on a curve he couldn't see, there was no place for him to pull over and he was out there like a chicken in the middle of a field for foxes to get at. And I would like to say this causes pollution and traffic accidents and it burns more gas and that there is not supposed to be a special lane for special people because they are able to have someone else with them or vice versa. I would like to say that we ought to check into this because Mr. Rockefeller has got a lot of interests in the Department of Transportation, and he has connections with the Department of Transportation by financing money through Glenn Jackson, and that's all I have to say.

H. Richard Deering:

805 N.E. 73rd Ave.
Portland, OR 97213

My name is Richard Deering and I want to submit two things here to this board before I leave here. One is, who is behind this High Occupancy Vehicle Lane is the bankers. The bankers are going to benefit by this tremendously, and the insurance which is under control of the bankers. I want to read something here to this room before I hand it to you so they can understand briefly what this is about. This is from the bankers manifest, "Capital must protect itself in every way through combination and through legislation, debts must be collected and loans and mortgages foreclosed as soon as possible. When through process of law the common people have lost their homes, they will be more tractable and more easily governed by the strong arm of the law, applied by the central power of wealth under control of leading financiers. People without homes will not quarrel with their leaders. This is well known among our principal men now engaged in forming an imperialism of capital to govern the world. By dividing the people we can get them to expend their energies in fighting over questions of no importance to us except as teachers of the common heard. Thus, by discrete action, we can secure for ourselves what has been generally planned and successfully accomplished." The above was printed from the Banker's Manifest for private circulation among leading bankers only. Taken from the Civil Servant's Yearbook, the Organizer of January, and the New American of February, 1934, and this information can be obtained from the Lighting over the Treasury Building. I want to submit this here on record and I also want to give to this board here who else is behind this is the United Nations, controlled by the bankers, which controls the Dept. of Motor Vehicles, Dept. of Transportation. Where Carter has signed two treaties denying property rights, and I want to submit this here to the board to show how President Carter is conspiring with Communism, Socialism and Marxism to deprive all of us of our constitutional rights and of our property. I want to speak here on this High Occupancy Lane tonight, too, on how this is revenue producing for the State. The Oregon State Police has become involved in a conspiracy of fraud, deceit and extortion. The Oregon State Police is out here by the juvenile home, they are parked on the side where it says "No Parking" excuse me, where it says "Emergency Parking Only." I have seen it times three state police cars parked on the side where its for emergency parking only, setting up their trap to entrap the people so they can extort, steal and produce this revenue for the state, and the judges of this county and the home rule charter area are going

H. Dirchard Deering (cont'd)

along and protecting the police. Now the Oregon State Police, I have several notes I have pictures, I am sorry I couldn't bring this here tonight, some of them are not developed at the time where I have pictures showing how the Oregon State Police is swerving in front of cars, sometime they are not even signalling, to get at that High Occupancy Lane, the Oregon State Police are setting up severe cases of accidents, but they have a title of nobility that is being protected by the judges. The Oregon State Police have got a title of nobility where they can sit on the side of the road for emergency parking, they can go on the High Occupancy Lane to catch somebody that may have two people in there. These people are paying taxes on that road, they are not given the opportunity to use this road it's all set up by witchcraft and sorcery with some sophistry thrown in and this all comes under the Home Rule Charter and it is surprising how this Home Rule Charter is completely denying Constitutional law yet in Article 6, Section 10, which pertains to the County Home Rule it says, "Such officers shall among them exercise all the powers and perform all the duties as distributed by the county charter, or by its authority now of hereafter and (get these last few words) by the Constitution, or laws of this state (see its contradictory here, what they are trying to do is hypnotize the people, they say they are going by the constitution, but they are really not because they have done away with the elected sheriff, they have done away with the elected county clerk, they have done away with the elected justice of the peace, and they have done away with the elected treasurer, which has all completely violating constitutional law. They violated the criminal code of the United States, Title 18, Section 241, deprivation of civil rights, Title 18, Section 241, deprivation of rights under color of law, and they have all set up this regional government, this Home Rule Charter, and to think that these people are officers, and I want to put on the record, in Article 15, Section 3 of the Oregon State Constitution, which states, "Oaths of officer: Every person elected or appointed to any office under this Constitution shall before entering on the duties thereof take an oath or affirmation to support the constitution of the United States, and of the State, and also an oath of office." Each one of these people on this High Occupancy Lane, this Home Rule Charter, this regional govenment, this metro government, are all violating their oath of office, violating consitutional law, and are all under possible criminal indictment under the United States code. My Statement here today, briefly is to do away with this High Occupancy Lane, it is nothing but revenue producing thing for the bankers who are financing this whole front. It is witchcraft for the people who are hypnotizing the people, the people are going along with this, they are not upholding the consitution themselves, because they have a right to drive on this road, not a privilege. It is a right under constitutional law. And the people that are promoting this here thing are a bunch of gangsters and criminals. I think that this should be investigated by a grand jury and I am petitioning you here orally tonight that we summons a grand jury and get this thing started investigating who is behind it other than the Rockefeller gang, Glenn Jackson, who is an Oregon front man for the Rockefeller men, let's see who is really behind this, who is getting the money, whose banks it is being put into, and how much the Oregon State Police is getting out of this. Thank you.

<u>W. G. Edgar</u>:

5644 S.E. Stark
Portland, OR

THE BANKERS MANIFEST. . . . . .

"Capital must protect itself in every way, through combination and through legislation. Debts must be collected and loans and mortgages foreclosed as soon as possible. When through a process of law the common people have lost their homes, they will be more tractable and more easily governed by the strong arm of the law, applied by the central power of wealth, under control of leading financiers. People without homes will not quarrel with their leaders. This is well know among our principal men now engaged in forming an imperialism of capital to govern the world. By dividing the people we can get them to expend their energies in fighting over questions of no importance to us except as teachers of the common herd. Thus by discreet action we can secure for ourselves what has been generally planned and successfully accomplished".

(The above was printed from the bankers manifest, for private circulation among leading bankers only, taken from the Civil Servants' Year Book, "The Organiser" of January, and the "New American" of February, 1934).
From: Lightning Over The Treasury Building.

SUBMITTED BY

H. Richard Deering

H. RICHARD DEERING
805 N.E.73rd Avenue
Portland, Oregon 97213

W. G. Edgar (cont'd)

I've been in to talk to you before (directed to Bob Bothman) and I think on a couple occasions I came in and made a few suggestions. Every time there have been meetings we've had large auditoriums in the past where we could have people, we picked a winter night this time so not too many people would show. But it is something that is very vital to our people and that is why I took the time away from something at home, watching some good television, to come down here tonight. I know it isn't going to do any good, I am going to say just a little about this, the people, many of the people in this room have been to several of the meetings in the past where we have tried to stop the Tudorville trolley out to Gresham, and we tried to get our Mt. Hood Freeway money back again which was stolen for a few gold bricks that were put in downtown by our wonderful mayor. Every time we turn around, this last month they stole the freeway money on the other side of the river, we wanted to get that completed, and this is my thought - until we can get adequate freeways and the freeways completed that the people have paid the money for, and spent our tax dollars, it isn't the mayor's money or the Tri-Met's it is the State of Oregon's tax dollars, what do you guys let the mayor run this department for? For God's sake, he does it, you don't have to alibi about it. You don't have any control over it. Straub and he slept together for the last four to five years. For God's sake, anything he wanted he would go down and tell Straub, and I don't know how much they would drink but if I was him I'd drink a little too. I would like to see a little true politics come about. And I think by golly, a bunch of us should go down and set up a hippies and people that want something for nothing, we are wanting something that is vital to our traffic. We haven't had a freeway that would carry cars over to Vancouver, Washington for ten years or better. Every one of these mealy-mouthed politicians get up and talk and talk and talk and never say anything, but they haven't done a damn thing for us. Hell, this other freeway out here, 205, the new bridge across ought to have been done about ten years ago, for about a third what it is going to cost now, and you guys are trying to steal a lane down here from us and you have gotten away with it so far. It is a hell of a note. We let the Tri-Met people take our money for the freeways and buy all of these busses that have blocked up the downtown area. Have you ever tried to get down to the courthouse. I have to go down there once in a while, and I have other places I have to be, I am 71 years old and I am still in business trying to make a living for a bunch of other people. I work for nothing at my business. I can tell you fellas, it is time we sit up and take notice and make our laws work instead of having a few people set down here in the mayor's office and run it. We got Mr. Ivancie down there, he is the only good thinking man down there. I am for him 100%. I am sorry fellas I can't take any more of your time.

Dave Newton:

1644 N.E. 153rd Place
Portland, OR 97230

I'd like to say that we ought to recognize the Banfield Buslane for what it is, for what it really is. For one thing it is a failure. It was doomed to failure from the start. It has been typical of everything that government has

Dave Newton (cont'd)

done with the Banfield from the day it started. A total failure. Most important to know is that it is part and parcel of that sacred cow called Tri-Met. It is nothing more than an effort of the bureaucrats to serve certain vested interests in funneling ever increasing numbers of people into the downtown Portland core area. To heck with Gresham they say, to heck with Troutdale, Estacada, and whereall. Get them into downtown Portland. Secondly, it is not a safe highway. Last Friday nite at 7:00 p.m. in the evening, driving on the Banfield the thaw had just come in the highway was safe, two cars ahead of me - one of them stopped. We were doing 50 m.p.h., the car ahead of me made it swerved into the next lane running that guy off the road. The car that was stopped had no choice, he was stuck. I couldn't make it and I tell you I froze for a few seconds until I could get out of there, there was traffic piling up like that behind me. The Banfield and its present configuration is an enormous hazard and must be corrected. You might know, anyone that drove it during the really bad weather, the number of cars that were stalled in that right hand lane was a real hazard. Third, I am one of those who listens to the police monitors sometimes at night and I am aghast at the number of times when there are accidents on the Banfield or I-5 when the city or county has to send a car because ODP has nothing available. They sure have them available at 8 am in the morning and 5 p.m. at night. The police say they enforce the laws because they don't have a choice. Hogwasgh! Smuggling of heroin into the state of Oregon is rampant and OSP does nothing to stop it, and they are the only logical police agency to do it. It would seem to me that any order of priority would put the enforcement of heroin smuggling laws ahead of the empty Banfield buslane. And finally, I would say all of this is trickery, the Banfield is an inferior highway at best, and it was put in by trickery. The buslane came to us by trickery. The State Police engage in trickery to enhance their authority. Gentlemen, you can't run a democratic society by trickery. And my recommendation, make it a one-half person buslane.

Bob Bothman:

I think that is the second person, actually, that has brought up the safety factor. It might be interesting to know that the safety, the accident rate on the Banfield is lower than the other three major freeways in Portland. Now, you may not believe that, I don't care if you believe that or not, but that is a statistic. You can check the accidents if you like and I challenge you to check the accidents and you will find that the rate of accidents reported on that freeway is lower than the other three.

Just one question and we will get on with it.

Question from Audience:

I would like to know what the accident rate, the section that has the HOV Lane, plus about a quarter of a mile prior to the HOV Lane in relation to what the accident rate was on that highway prior to the HOV Lane.

Bob Bothman:

Okay, I don't have that without going to the books, but I do have it for the entire five mile section and maybe that is not a quarter of a mile each way,

Bob Bothman (cont'd)

it is more like a half a mile each way, and what is it Max about 1.2 accidents per million vehicle miles, and it dropped down to .9 accidents per million vehicle miles. That is the way we keep statistics.

Those are just records, I am not making them up. You guys make out the accident reports.

Comment from Audience:

A highway without shoulders is not safe, and to say the least it is not as safe as it could be and it seems to me it is the responsibility of the Transportation Department is to make that highway as safe as it could be. Forget Tri-Met and all those things that go on like that.

Bob Bothman:

I would like to go on with the next person - Laurel Wentworth.

Laurel Wentworth:

424 S.W. Main
Portland, OR 97204

My name is Laurel Wentworth and I represent the City of Portland Bureau of Planning. Unfortunately, Mayor Goldschmidt could not be here tonight, but I would like to read a statement that he did prepare for this public hearing. As I said this is a statement of Mayor Neil Goldschmidt from the City of Portland to the Department of Transportation on the Banfield HOV Lane project dated today.

(See attached speech)

Edward A. Muller:

8004 N.E. Schuyler St.
Portland, Oregon 97213

Mr. Chairman, I know that when I came to the meeting I am No. 7 here and my card was number 14, so I have made several presentations in my life in discussing, and we always find that the person who comes on last his job is practically done, so I heartily agree with 75-85% of what the people ahead of me have said here tonight. First of all we did come for one thing and that was a resolution to change it to two lanes. It is my recommendation that that be changed to two occupants. Secondly, then you have offered us the opportunity that if we had further comment we could do it. So it seems that Mayor Gold-Schmidt's testimony has been the first one that recommended the two-occupancy HOV, we have all somewhat gotten off on something that we all have our personal feelings about. I feel like the gentlemen who spoke about the State Police, I agree with what they have said, we notice that they do come in between you and the traffic causing a safety hazard. We also find that the lane is idle quite a lot of the time, and all you people here that are involved in business and you work with any type of IBM machinery, whether it is IBM or Westinghouse,

THE CITY OF
PORTLAND
OREGON

OFFICE OF
THE MAYOR

NEIL GOLDSCHMIDT
MAYOR

1220 S. W. FIFTH AVE.
PORTLAND, OR. 97204
503 248-4120

STATEMENT OF MAYOR NEIL GOLDSCHMIDT
TO THE OREGON DEPARTMENT OF TRANSPORTATION
ON THE BANFIELD H.O.V. LANE PROJECT

January 16, 1979

Over the past year, I have had the opportunity to review status reports from City staff assigned to the Banfield HOV Lane Project Study. I have supported this project due to its important objectives in air quality improvement, transit and carpool orientation, and congestion relief in the Banfield corridor. As such, I believe the Department has done a good job of monitoring the project and adjusting the operational characteristics in an effort to maximize the utility of the HOV lanes.

However, recent reports and information which I have received indicate that while transit ridership continues to increase in buses using the HOV lanes, the use of carpools seems to have leveled off. I understand that the possible redefinition of the carpool from three passengers to two passengers, a change which would result in significant increases in the number of vehicles using the lanes, thus, adding capacity to the Banfield, is under discussion at this public hearing.

I would like to take this opportunity to set forth my support for this change in carpool definition, with the expectation that it will result in even greater efficiencies and capacities in the project. It is also my expectation that such a change will not result in severe impedance of transit vehicles using the lanes, and that State Police enforcement will continue to insure the traffic flow benefits which will be realized.

In taking this position, I also propose that you consider retention of the HOV lanes in the Banfield until such time that implementation of the Banfield Transitway is underway or completed, whichever is feasible. It is clear that the maximization of the capacity of the Banfield provides benefits not only to residents who use the facility, but also to City neighborhoods along parallel arterials on which relief is attained.

Edward A. Muller (cont'd)

anything that you have, you know that you have time and that is valuable. If you don't make your report to that machine at a certain day at a certain hour you have got to wait one more month because you lose it. This is the way I feel it is happening to us with this lane. We have a very important lane and that lane is worth time and worth money, but we are not getting full value out of it. So if we can do nothing else at this meeting tonight, I would recommend that this resolution be supported and passed. At least one thing in favor we do.

R. G. Rieken:

9910 S.W. N. Dakota, Apt. 22
Tigard, Oregon 97223

Well before I mention the hazards on the Banfield I would like to mention that I have driven for about 45 or 46 years in all states except Alaska, and Vermont. I have driven freeways since the original Pennsylvania turnpike, and I have to admit if I may say it the Banfield scares the hell out of me. I do not like driving on it and I think it is a very hazardous piece of road as to the whys. But I do think the HOV has initally increased the hazard by jamming too many cars in two lanes creating a lot of frustration and antagonism in drivers. I drive it roughly in the evening hours three or four days a week. I can't speak about the morning traffic coming in because I never hit that. But I do know that it is very frustrating and a very antagonising situation and I've seen people just looking at them they were so mad they were ready to get out of their car and let somebody have it, anybody that was available.

Okay back to the point. I feel that a recommendation and a willingness on the part of the Department to reduce the amount of passenger load in passenger cars from three to two constitutes a tacit admission of failure of the HOV and that any attempt to continue it is merely an attempt to save some face. They should be realistic. This is not the time for it to succeed even if the Banfield was a highway that it could be adapted to, ultimately, yes, it will be the thing, but people aren't ready yet to do it for quite a while yet, until gasoline becomes so scarce and so costly that they haven't any choice. So in the interests of increased safety on the road, I would think that the lane should be done away with. I don't think it has saved anything in the way of fuel, rather I think it has cost a tremendous of fuel by all the unnecessary slowing down, speeding up and stopping in the two congested lanes. They more than negate any savings generated by use of the HOV Lane. Again, I don't believe that the HOV has saved any time for people using the HOV Lane when related to the traffic flow prior to the institution of the HOV Lane, when all three lanes were available for all cars to move. I haven't seen any statistics. This is an assumption. One other reason I don't think it should be continued and most specifically on the outbound lanes, that is going out, is that distance of 1.7 miles is such a minimal distance that you hardly get going before it is ended. I would doubt, and again this is an assumption, that on an average vehicles using the HOV Lane right now save more than a minute or two over the time that might have spent on that same distance prior to the time of the HOV when all lanes were available to all traffic. Again, this is an assumption. But it would seem to me from my observations that

R. G. Rieken (cont'd)

and I do watch when I am driving, that there has been very little savings in time, and its for a very small number of people, whereas it is costing a lot of people a great deal of time slowing them down all the time. So I don't feel that it is really adaptable to the Banfield Freeway, creates hazards on the road, doesn't save the fuel it was meant to, the distance is so short particularly on the outgoing lanes, so my recommendation is let's not even have two, let's just forget the whole thing. Thank you.

Bob Bothman:

I might add a couple things, maybe you weren't familiar, you weren't here before we had the HOV Lane? We only had two lanes and not three, before the days of the HOV, so the fact is that the speeds are considerably better now than before the HOV Lane. That is not to say that if you didn't open up all three lanes to all autos that the speed obviously would be faster than it is today, so all the conditions are better out there today than before the HOV Lane. That is not say they would not be a lot better if we opened it to all the automobiles, that is another thing.

Eugene W. Brown:

The reason I am at the meeting is basically that I would like to at least see it go to two like you stated, but the main reason is because I have looked at this objectively, or tried to. Anyway, what I would like to see happen is as you enter your lanes you have got barriers which take the road, restructure the traffic from the center lane to the outside lane, at this time you have got traffic feeding off 39th, I am saying you take a three month time if you are going to continue with the lane, remove the barriers heading into these lanes and then instead of ticketing people maybe give them warning tickets if they are impeding the traffic. Inotherwards, the center lane you keep it flowing, what I am basically saying is you take thirty people in this room and make that door half the size I don't care if they are flowing fast going into the door, then slow down then they have to re-speed up. You basically have bottleneck at both ends of it, whether you are coming into town or out, what happens is people see the thing which says right lane ending you can watch them, they hit their brakes and slow down because they expect everything to merge. What you are doing is you are building an hourglass, in fact, at both ends. I would like to see the whole thing be gone, but I don't think that is possible. If the three month time period was given, where they remove those barriers and they had signs in the center saying "If you are impeding any vehicles behind you, as far as the buses or anything else then you will be ticketed. Inotherwords, you are supposed to move out of this lane, you are in the center lane heading up there you don't have to worry about moving over, worrying about the cars beside you, you've got too much congestion coming in there. The one other thing that might do it would be, I hate to think of shutting off the entrance at 39th, but if you could somehow shut that off and obviously you want to make it go but what I say is you get rid of the bottleneck. It is a law of physics, first of all we have slowed the cars down, once you slow them down it is going to take a road two lanes wider to carry the same number of cars within a period of one hour. If a road takes 5,000 cars within one hour, obviously you slow the speeds down it takes a wider road for the same volume. I don't know if

and while driving under the influence. I think these would be much better uses of the police time than changing lanes and going out clear in the center lane and clear back over here in order to catch a person that either purposely or inadvertently got into the lane illegally, and I probably think that this resolution is a turn in the right direction. I vigorously support it and I hope it's adopted by the Commission.

R.N. Bothman

The next card I have is Robert Shepperd.

Robert F. Shepperd
12730 NE Rose Pk.
Portland, OR 97230

Well, I'm not for the HOV lanes but it looks like we got the sad case there. Shortly after they went into use, I called the state highway department to ask if they couldn't clear up one of those lanes of the water. They gave us two lanes, all right, and they says Oh Yeah, we're working on that hazard out there. Three years later that hazard is still there and if you drive the outside lane of the Banfield like us poor people that drive commercial vehicles, and I have to have a commercial vehicle because I work for - I even work for some of the state. And I am forced into that outside lane. I am forced into the deteriorated lane that is water half over the lane under heavy pressure. I cannot drive in there, I try to force myself out to the line to keep my car out of the water and drowning my car and stopping it. There is no reason in this living world why they can't have more turnouts along that thing because these trees are far enough back if a car is really forced, he has to curb himself, go over the curb and park on the grass. OK, a taxicab is no more important than I am in a way. I'm a commercial vehicle, I don't take people with me but I'm still forced into this outside lane because I have only one, I have to be outside of that HOV lane. Two people is not going to really help me a lot. Yet I must get downtown at the same time, I must service my accounts as well or better than a cab. I see no reason why, it's taking after the working area. This is the working part of town. We're not going out on the Sunset Highway where the high price people live, we're not taking the Sunset Highway and saying this is an HOV lane, you poor working people cannot use it. We go out here to the east side where us working people live and say OK, now all you working people stay over here all you aristocrats get into this lane and go. The Barbur Blvd. one did not eliminate lanes, it eliminated the center piece there where a lot of left turns were made and then eliminated the left turns. But they did not eliminate a lane like they did over here.

R.N. Bothman

Just a second, they did the same thing here, by the way, on both projects. They used the shoulders. They're both identical in that respect.

Robert Shepperd

Well, I've never driven the Barbur because I live out this way and I come in from the Parkrose area every morning. And if you watch a cop pick up somebody, that brings traffic right down to a screeching halt while everyone watches to cop pick up somebody who is really innocent, it backs traffic up more, and stops them, and before they ever get started up, we got traffic

you check the hours that the highway department spends fixing those divider shields in that HOV section. They're down there every day. fixing them. They're not fixing them east of 82nd Street. Now, to change the story here a little bit, I'm a salesman and there's no way I can get in a carpool. I can't see why two people vs. three people in a car is going to cure any of the problems. Professional people, salesmen people that have to use their car, a lot of people going downtown from east Portland that have to have their car for work. And there's no way they can be in a carpool. Now why doesn't the city of Portland make a survey and a study in cleaning up Division, Glisan, Burnside, and a few other streets and make them four lanes like they're supposed to be. They're not four lane streets. They're never four lane streets. You try it sometime. Now if we had an expert that knew all about this traffic flow, we wouldn't be in the mess we are now. Somebody just didn't make a respectable study of how people react when they get in an automobile and go someplace. People change their character. They don't abide by rules of nature. They just know they want to get from here to there as quick as they can. Like these people who've been talking tonight. You can't believe what it was at 1:00 today the way people were going like this to change lanes. I was glad when I got to 82nd Street and got off there. It's terrible. They're changing lanes and they don't know what they're doing. Now, I guess that's all I got to say. I just think forget that HOV. Give the road back to the people and let them get there the best way they can. People have enough common sense to drive their car, or they shouldn't have a license. I've been in this state since 1941 and I've driven on every road in the state of Oregon- backroads, hill roads, mountain roads, wore out ten sets of studded tires and I haven't had a wreck yet because I've been lucky enough to miss these guys who don't know what they're doing trying to change lanes. in and out, in and out. I'd like to see the whole thing washed up and give the road back to the people.

R.N. Bothman

The next card I have is Representative George Starr.

George Starr
909 NE 114th Ave.
Portland, OR 97220

I'm George Starr and I'm State Representative in District 17 in Multnomah County. This Banfield Freeway runs from one end of my district to the other, and the HOV lane is a major part of it. I've had concern over the years since the thing's been in service and I did receive letters and phone calls from a number of people in the district who expressed their concern. As a result of this I included a question on this in a questionnaire that I circulated in the district almost a year ago, and the response was terrific. I had about pretty close to 600 returned and on this question. The question was right on what we're talking about, for which I commend the advisory committee for adopting this resolution. About four out of five said yes, reduce it to two-person carpools and the other one out of the five said let's do away with it altogether. I don't think there were any "don't knows". Everybody had a rather strong opinion on it, and naturally I respect their opinion because that's what I represent. I want to reiterate what a number of people have said about and what I think as well as they do, about the hazards of the state police being used three or four at a time to enforce the provision of the HOV lane. I just think their usefulness in fighting crime could be a whole lot better used than going for more serious moving violations. Like guys being reckless driving or failure to yield right-of-way

Eugene W. Brown (cont'd)

I have made sense to anybody or not. I have raced motorcycles at 180 miles an hour and that freeway scares me. I am a professional motorcycle racer and that freeway what scares me is there is a bottleneck and I see the people congesting and they don't know how to handle it. If anything, they should be ticketing these people for going too slow, because what happens is, the average speedometer in the car is probably off five miles an hour. I admit, due to weather conditions people should slow down. But I've seen more congestion when police are parked off to the side. If it remains, all I'd say is you put signs in the center barrier, remove the two-restructure your two deals, remove them for three months. Cement the forces that force the cars to change lanes. I think you'd find that it would probably increase the flow immediately. It may not cure the problems, but it's definitely going to make it safer 'cause any time you have people changing lanes that's when you're going to have the accidents and the reactions of people hitting brakes. You can watch them up there any afternoon, even coming out here 15 - 20 minutes ago, same thing. They get to that area, it's smaller. Mentally they see the sign that says-anyway that's what I've come here about tonight because basically there's no point in calling engineers that work for - that's what I've come to point out. Not the fact that I disagree with it.

R.N. Bothman

You're essentially correct. There's no question it's a bottleneck.

Eugene W. Brown

As I say in three months, if you remove those barriers you'll discover that it will flow faster. It may not cure the problems, but it can cure a lot of the accidents, or almost accidents. And the almost accidents are what get the speeds down. Once the speed is down the average person does not accelerate very fast on the highway. Once they're down to 35 MPH they probably spend 15 seconds getting up to 55. Once you have the congestion you aren't going to get the velocity up again.

R.N. Bothman

The next person didn't mark the card. Robinson, E.C. Robinson, do you wish to testify?

E.C. ROBINSON
8615 SE Alder

Yes, I have a letter that I was going to write to Neil Goldschmidt and chew him out, then I changed my mind after I decided I'd come to this meeting and get a chance to talk.

Fred Reisen, general staff writer in the Oregon Journal on the ninth of January. He tells us that 7 percent of the cars are using the HOV lanes. Seven percent of the cars are using 33 percent of the highway. I have lived in Oregon and I have driven one million miles in Oregon as a salesman. I can prove it, and I've never had an accident. But I have learned to stay off of that Banfield Freeway if I'm going to the doctor or the dentist, or I have to be sure I'm going to get downtown. From 7:30 until 9:00 there's a 25-40 percent chance that you're not going to get downtown on the Banfield Freeway. Now can you imagine that that's a safe road. I'd like to have

going back to Gateway. Under bad weather, you do not dare drive very fast in that outside lane with that water sitting. Well, within a week to a month after it started, I requested they do something about this, and they said we have found that to be a problem, Mr. Shepperd, and we're going to resolve that problem immediately. Three years later may I ask what was done? Nothing, nothing has been done. No more drains, no more nothing, no more cess pools, no more nothing to drain that water off. We still have a hazard, it is still there, and it's still forcing the people closer to the center, and eliminating that outside lane down slower yet. So I think I'm as good as any taxicab and I think I ought to have the right, and if I have the right, then everybody should have the right to use that lane. Because I'm as commercial as a taxi. I earn my living commercially with my truck.

R.N. Bothman

One more card - Carl Neuburger

Carl A. Neuburger:

1523 S.E. Tolman
Portland, OR 97202

Mr. Chairman, it has been very interesting listening to these comments, and I must say I really sympathize with the Highway Department forced as they are to curtail their own desires to build the highways that the public sorely needs and being continually ham-strung by bureaucrats who don't seem to know what time of day it is. Regarding the HOV Lane, I made a study of mass transit movement in the United States and the Department of Transportation of the United States says that approximately 3% only of the rides that are made in urban areas are made by bus, inotherwards 97% of rides are made in vehicles such as private cars, campers, trucks and this type of thing. We are tying up one-third of the highway. Inotherwards, 33% of the highway for three of possibly 4% of the people. I don't think that this is right. I don't think that any special consideration should be given to buses. I have lived here all my life, I was born and raised here, and buses seem to do pretty well with the cars and other vehicles that were on the streets. Of course the Highway Department and Road Departments weren't ham-strung, they were building roads right along, they had schedules and planning that they were adhering to and things went along pretty well, but in the last twenty years or so we have seen a change in this trend. We have gotten bureaucrats in local government who have seen fit to discourage the building of roads. Inotherwards, to discourage the movement of people. The idea to try to force them into mass transit and into buses, this isn't going to work. The trend has got to be changed and I hope that through meetings like this, that we can get some common sense again started in the matter of moving people over the highways and the roads of Oregon. Thank you.

R. N. Bothman:

You made an interesting comment I might just remark on - and that is when you said that 4% of the people using a third facility, actually we of course have the HOV Lanes only in the peak hours and we are carrying 20% of the people in the Banfield in that time. That is just a fact, that is in 6% of the cars, we only have 6% of the cars in that lane, that is true, but those 6% are carrying 20% of the people so you made an interesting statement in whether that freeway is for cars or for people. Obviously when we had the project initiated it was . . . . .(Tape change)

R. N. Bothman (cont'd)

You can't tell people how to go. The problem otherwise is you are very true in that what these trends are all about is a whole bunch of things. As an example, when we built the Banfield we built it against the people's wishes. A group just like the one here didn't want us to build the Banfield when it was built 20+ years ago. There are people out in Parkrose who testified and told me this, so it is true. That was built over the wishes of the people. They didn't want the Banfield. Those same people want it bigger and they can't understand why our department didn't make it bigger. We had the same problems twenty years ago that we have now.

Carl A. Neuburger:

There is a basic shortsightedness among people, I live in the Southeast part of town and if the Mt. Hood Freeway had gone through it would have come pretty close to me, but I feel it should have been put in because regardless of it disturbing my neighborhood, because when a neighborhood becomes so congested because the highways aren't built, then you get that type of plight. And so its better to build the highways and keep the traffic moving. I would like to make a comment on your statement about the fewer accidents that occur on the Banfield in comparison with some of the other roads. I am just wondering how many of these accidents that are occurring on these other roads are created by people who in frustration, who have just left the Banfield get out and get themselves in an accident because you can't imagine until you have driven that road every day during the rush hours how frustrated a person can get trying to contend with such a situation it is just terrible and this leads to an emotional pitch in people that will cause accidents.

R. N. Bothman:

That's true. Thank you very much.

Michael Meredith:

1500 N.E. Irving
Portland, Oregon 97202

Gentlmen, thank you. My name is Michael Meredith and I am here representing some fifty trucking companies of the local and short haul carriers conference, of the Oregon Trucking Association. We originally had discussed the possibility of petitioning you to consider opening up the HOV Lanes for use of heavy-duty vehicles, but on discussion we concluded that we had serious questions as to any evidence that you might produce that shows that the HOV experiment is a success or indeed can be a success. We, therefore hope that you will consider completely opening up the HOV lanes for all people. We think that that would be the fairest thing to do. That is all the comment that I would like to make.

John Ward:

I just have a couple of questions. I question whether the Department of Transportation itself is somewhat confused about the purpose of this lane. Now I read here where it says that whereas OR4879051 provides the Department

John Ward (cont'd)

of Transportation with respect to highways and streets under jurisdiction may disignate lanes to be used by buses in high occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation. I first of all would like to challenge you to prove even though you say that during those hours 20% of that traffic is in the HOV Lane, I mean that the HOV Lane carries 20% of the people. I would like you to show me figures that that is any conservation of energy, considering the congestion it causes in the other two lanes during that same period of time. When that extra lane could be carrying that many more people. Now the other thing is I have listened for at least three or four times today to KYXI publicizing this meeting tonight and there was a female voice by some member of the Department of Transportation saying that the purpose of possibly reducing the occupancy to two people was to eliminate or to reduce the pollution on the Banfield Freeway caused by the excess use of cars slowing down and that by increasing the capacity of the lane to three of the three lanes they could reduce pollution by increasing the number of cars passing at a certain time. Now I don't know how official this person was but she was speaking for the Department of Transportation and that was a totally different reason for this hearing and for considering reducing the occupancy to two people, now could you explain that to me?

R. N. Bothman:

Well - by going to this rule we feel you will reduce the pollution on the freeway.

John Ward (cont'd)

John Ward (cont'd)

But there is nothing in this about pollution it is about energy saving, and there was nothing in the notice to this hearing that said anything about saving energy.

R. N. Bothman:

We probably should have included that too, because you would of course save energy, too. This move will save energy, and it will do that because our indication is by going to this rule essentially what you will do is shift about 400 people, 400 cars out of the two lanes that are carrying single occupant cars - they will be carrying about 1700 each in the other two lanes in one hour, but it will shift those cars out of that lane with the lesser amount of cars in the other two lanes the speeds will increase something like three miles an hour. So then you've got cars moving just a little faster. Ironically, what we anticipate though, what the major improvement will be is it will shift about 300 cars off of the parallel streets. That is the people that are now going on the either side, Halsey or Glisan or over the Burnside and using those routes or Sandy, instead of coming down the freeway. Those cars will shift over. Interesting enough, those arterial streets aren't carrying the number of cars that they did three years ago, all of the freeways up and I don't know the exact the percentage that it is up after the three year count but it must be in the neighborhood of 12%, in that neighborhood.

R. N. Bothman (cont'd)

So shift the cars over, they'll go the quickest way and they will shift to the freeway. But overall the traffic will be moving better.

John Ward (cont'd)

That's the point. Doesn't it boil down that you save energy and pollution as soon as you get everybody home that is going home? Well, why not just forget two - that's saving face as far as I can see, that is saving face by the bureaucrats who flubbed it the first time.

R. N. Bothman

Is there anyone else who would like to testify?

Comment from Person in Audience:

The State of Oregon has roughly 10,000 cars in the motor pools. They ought to eliminate them and then the people who drive those cars ought to take buses.

R. N. Bothman

Good Idea. Thank you.

Question from Audience:

I would like to ask a question again about these figures you were just quoting as to how many you expect to use the HOV Lane if they drop it to two passengers?

R. N. Bothman

I was giving you kind of an average, we have it both for the morning and both for the afternoon, I think you said you used it in the evening. In the evening at the present time, in the non-HOV lanes in the peak hour I am talking about, we are carrying 3600 vehicles, that is about 1800 vehicles per hour in each lane and 280 in the HOV lane. That is why it looks pretty empty per hour. After we institute the two-occupant we anticipate we will have 925 vehicles in the HOV lane and 3305 in the non-HOV lane.

Comment from Audience:

I wish to argue this point with you, I really would question any individual who would tell me, I really would question that that small increase in the HOV lane, even though you would have an increased speed in the non-HOV lane I would seriously question whether or not there would be any fuel savings. I would still say, on the basis of my own experience that the speed up, slow down, stopping, and excuse me for the way I have to put this, but one hell of a lot more fuel is going to be saved by that 8 or 900 in the HOV lane.

R. N. Bothman

Part of that of course is now talking about the entire day, we are talking about 120,000 vehicles a day on the Banfield, and they are of course going five miles roughly in the section we are studying. Why we have, just for general information, so much data is that we had a federal grant, the bureaucrats, at a federal level that provided the funds that we did monitor this project for the first eighteen months, actually it is a little bit longer than that of the project, so we have actually taken a regular count of occupancy of all the lanes, vehicle counts, speeds of all the lanes, and the accident rates, all of this on a daily basis, and kept those statistics to try some trends. So we do have a wealth of information.

Comment from Audience:

I want to bring up a point, a federal grant that's taxpayers money. And another thing the gentleman right here is absolutely right when cars are bumper to bumper burning more gasoline and having more chance for automobile accidents - the whole thing is a fraud and I don't see how you gentlemen can sit up there and and tell us that this thing isn't so, because you guys don't know what in the world is going on, you don't know what you stand for and I don't know why people don't just go on that road and drive it as they will and tell you guys to go hang it.

R.N. Bothman

Is there any one else who would like to testify?

Audience Comment:

I guess it takes a Californian to really solve these problems. I'm no Californian. My Dad came out here when I was two years old and we've been out here for 90 years, so don't call me Californian. They really resolved this HOV lane. They petitioned it. And if I hadn't have been working for the state on some of my state projects that I have to make a living off of, I would have petitioned that lane out of there and I bet you I could have petitioned that lane out of there. And the Californians did. And I was thinking of it before they started. Believe me, if I didn't think they would burn my state contract if I did, I would still do it. But that's the threat of government over a personal individual.

R.N. Bothman

Is there any one else who would like to testify?

Audience Comment:

Yes, I would like to ask a question in regards to implementing an investigation into how much money has the Chairman of the Transportation Department of Oregon has made out of this project, and Tri-Met made and so forth. Now he's not elected, he holds the public bonds he draws interest, he pays no taxes, he's stealing from the widows and children, the poor, the crippled, the lame. It's an international program. It can most likely be pinpointed in what's going on in other countries. Russia, England and so forth. It is not a racial program that's necessary or required within this area. It's a duplication because of the implementation of Tri-Met bus system. It's the

biggest money-making racket this country and this state has ever been suckered into and the legislature should definitely make an investigation of this.

Audience Comment:

I would like to elaborate a little bit more on this gentleman's comments.

R.N. Bothman

Could we close the hearing. If it's germane to the subject, we're not interested in taking Mr. Jackson to court. If you want to do that, talk to him.

Audience Comment:

I would like to know how much revenue the state of Oregon has got from this part of the freeway before the High Occupancy Vehicle lane came in and how much revenue is being taken off this area now that the High Occupancy lane is in. Which bank is it being put into?

R.N. Bothman

None.

Audience Comment:

I don't believe that. Anyways, I'd like to know how much revenue has been taken in on that highway before the High Occupancy lane and how much revenue is going to the state bankers and how this is taken in.

R.N. Bothman

There's no way to tell that. Somebody could try to compute it by the gas tax and figure it, but we don't sell any gas out there so the only revenue we have is gas tax.

Audience Comment:

I'm talking about the scheme that the Oregon State Police is included in by ripping off these people and stealing from these people, extorting from these people these people on these lanes. Sitting on the side there, how they've involved themselves in criminal conspiracy. This is what I'm after. What's the State Police doing, parking on the side at "Emergency Parking Only". I've documented film on it, hours of doing research and taking pictures on this, and notes.

Audience Comment:

I would make somebody a five dollar bet that two cars start and two out of three times even with the mess on Glisan and Burnside, one guy turns off and takes the freeway to prove the best way to get there, and one guy takes Glisan or Burnside - I usually take Glisan because Burnside's a worse mess than Glisan - and go to the corner of Everett and Broadway the guy on Glisan would get there before the guy that took the freeway going across the Steele Bridge. I tried it twice. I took Glisan and someone I know took the freeway and I beat him both times to that corner.

R.N. Bothman

Is there anyone else who would like to testify this evening before I close the hearing?

Audience Comment:

I think the government is at war with the person with an automobile and that's proven they're out to get the individual. They're going to harass you on this insurance, they're going to harass you on the highways like this phony 55 MPH here, this phony gas shortage. This whole thing is a fraud. These governments don't let youto be independent anymore and they don't want you to go around and be free mobile anymore. And that's the whole thing of the totalitarian government is to control your access to go where you want to go.

R.N. Bothman

Thank you. I appreciate everybody coming out this evening, and the Commission will act on this resolution next month. I'm not quite sure what the date is because they reset the hearing this morning. But it'll be about the middle of next month. Thank you for coming tho this meeting.

ending time of meeting is 8:55 PM.

BANFIELD HOV LANE COMMENTS

Submitted for the public hearing January 16, 1979
by Steven Buckstein, 1102 N.E. 112th, Portland, OR 97220

As a frequent Banfield commuter for over eight years, I have several points to make about the HOV lane:

1) Congestion seems worse, not better, since the HOV lane was created.

2) Sitting in stop-and-go traffic while the HOV lane stands virtually empty is psycologically much more aggravating than having all lanes slow moving. Driver's tempers flair when they perceive no logical reason for their inconvenience. If all lanes are jammed, everyone is "in the same boat", but the HOV lane is a terrible reminder that the extent of the congestion isn't really necessary.

3) Of the few cars seen in the HOV lane, a significant percentage contain one or two occupants. This increases the feeling of injustice and tempts angry drivers to break the law. All Banfield drivers have seen state police sit passively while the HOV lane is so misused.

4) The impression drivers have of the state police on the Banfield is very bad. Trying to enforce what is perceived as a bad law, the police lose the respect of the driving public. Often, in the evening rush hour, the slow-ups are actually caused by drivers slowing down to view hapless motorists pulled over by the police. Also, the police cars often take up the emergency turn-outs thus creating a dangerous situation if someone has to pull off the road.

5) All the above problems cause many drivers who logically shouldtake the Banfield to switch to Sandy, Halsey or Gleason. Even though these streets are crowded, the aggravation of an empty lane is missing, and the drive to and from downtown is much easier to cope with, even if the time it takes is about the same or slightly longer. I, for one, much prefer stop-and-go traffic on Halsey rather than feel like an idiot sitting next to a vacant lane on the Banfield. I'm sure you will find this attitude very wide spread among East county drivers.

Comments on the proposed solution to the HOV problem:

1) Permitting two person vehicles in the HOV lane seems a very good idea. If the statistics are correct that 20% of the Banfield vehicles contain two or more occupants, this would mean that the HOV lane could contain roughly ½ the vehicles in each of other two lanes. This should allow a smooth flow of traffic in the HOV lane while reducing the congestion in the other two lanes. In this situation, the HOV lane would be moving over one-half the people on the Banfield. This seems to better meet the goal of moving the most people in the least amount of time.

2) The two person per vehicle solution should also greatly reduce aggravation of the other drivers. With cars constantly occupying the HOV lane, the temptation to move into the "vacant lane" would be greatly cut down, and the feeling of being a jerk for sitting still while an empty lane sat next to you would vanish. Psycoligically, drivers would feel much better about driving the Banfield and would thus be less likely to fill up the other routes into town.

In conclusion, I travel in a two-person carpool and I would definately use the HOV lane if it were open to me.

Steve Buckstein

AUTOMOBILE CLUB OF OREGON
600 S.W. MARKET STREET • PORTLAND, OREGON 97201
Affiliated with AMERICAN AUTOMOBILE ASSOCIATION

EMERGENCY ROAD SERVICE 222-6777 | MOTOR TOURING 222-6700 | WORLD WIDE TRAVEL 222-6767 | SALES 222-6900 | INFORMATION 222-6734 | INSURANCE 222-6744

Janurary 16, 1978

The Automobile Club of Oregon is in favor of the proposed ammendment which would reduce the occupant restriction on the Banfield Freeway HOV lane to two passengers instead of the existing three passengers.

The Club based its stand on the estimated increase in usege of the HOV lane from 6% to 20%.

Kathleen M. Carr
Public Relations Department
222-6749

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Receipt Copy

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

IN REPLY REFER TO
FILE NO:

TRANSPORTATION BUILDING, SALEM, OREGON 97310

December 13, 1978

Mr. Thomas Clifford
Legislative Counsel
S101 Capitol Building
Salem, OR 97310

Dear Mr. Clifford:

Attached is a copy of a proposed rule which is being considered for adoption by the Oregon Transportation Commission as a permanent rule. The rule pertains to the amendment of the rule establishing the Banfield Freeway HOV lanes to redefine the occupancy requirements for a high occupancy vehicle from three or more passengers to two or more. We are also enclosing the Statement of Need.

The rule will be adopted pursuant to ORS 487.905 and ORS 184.619. A hearing will be held on the rule on January 16, 1979. Notice of the hearing will be published in the Secretary of State's Bulletin on January 1, 1979. Attached is a copy of the Notice of Hearing.

If you have any questions, please contact Jack Sollis, Chief Counsel, at 4259.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

Atts.

LEGISLATIVE COUNSEL OFFICE

4209

FORM 731-0027

STATE OF OREGON

INTEROFFICE MEMO

TECHNICAL SERVICES — DEPT.

238-8231 — TELEPHONE

TO: CECIL HEAD
Manager, Commission Services

DATE: December 11, 1978

FROM: MAX J. KLOTZ
Metro Technical Services Engineer

SUBJECT: Proposed Resolution
Banfield HOV Lane

Fran

Attached is the proposed resolution on the 2-Person Carpool Rule change revised as per Jack Sollis' recommendations last week.

Please substitute this for the copy I left with you and when the time is appropriate, transmit this along with the rest of the package to the Secretary of State, etc. for publishing in the January 1, 1979 Administrative Rule Bulletin.

Thanks for your help.

js

cc: Jack Sollis

81-128-1987

RECEIPT COPY

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

IN REPLY REFER TO
FILE NO:

TRANSPORTATION BUILDING, SALEM, OREGON 97310

December 11, 1978

Hon. Norma Paulus
Secretary of State
121 State Capitol
Salem, OR 97310

Attention: Administrative Rule Section

FILED
DEC 11 1978
NORMA PAULUS
SECRETARY OF STATE

Dear Mrs. Paulus:

Please publish the attached Notice of Hearing in your Administrative Rule Bulletin on January 1, 1979, concerning the proposed amendment of the rule establishing the Banfield HOV lanes to redefine the occupancy requirements for a high occupancy vehicle from three or more passengers to two or more.

Very truly yours,

C. W. Head

C. W. Head
COMMISSION SERVICES

fkn

Att.

FORM 731-0027

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Gary Eaton (Please Print)

Address: 2823 NE 13th

City: Gresham, Oregon Zip Code: 97030

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: _____

Reverse side comments will be made a part of hearing transcript.

Reverse side comments will be made a part of hearing transcript.

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Reverse side comments will be made a part of hearing transcript.

2

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Lester E. Braddock
(Please Print)

Address: 2325 NE 39th

City: Portland Oregon Zip Code: 97212

Do you wish to make a statement: (Please check one) ☐ Yes ☒ No

Organization Represented: _____

Reverse side comments will be made a part of hearing transcript.

Reverse side comments will be made a part of hearing transcript.

Reverse side comments will be made a part of hearing transcript.

Reverse side comments will be made a part of hearing transcript.

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Reverse side comments will be made a part of hearing transcript.

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Reverse side comments will be made a part of hearing transcript.

Reverse side comments will be made a part of hearing transcript.

Some questions I have been endeavoring to get answer too. →

1. What does it cost the tax payers of Oregon to police the H.O.U.?
2. How much energy has been conserved?
3. Why can't failure be Admitted?

I am in favor of Abandoning the H.O.U.

3

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Larry A Hoffman
(Please Print)

Address: 715 NE 92 Ave

City: Portland- Zip Code: _____

Do you wish to make a statement: ☑ Yes ☐ No
(Please check one)

Organization Represented: Tax payer and Slave

Reverse side comments will be made a part of hearing transcript.

4

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: H. RICHARD DEERING
(Please Print)

Address: 805 N.E. 73rd AVE.

City: PORTLAND Zip Code: 97213

Do you wish to make a statement: ☑ Yes ☐ No
(Please check one)

Organization Represented: _____

Reverse side comments will be made a part of hearing transcript.

5

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: W. G. EDGAR (Please Print)

Address: 5644 SE STARK

City: PORT., ORE. Zip Code: 97215

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: PROPERTY OWNER & TAX PAYER

Reverse side comments will be made a part of hearing transcript.

6

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: DAVE NEWTON (Please Print)

Address: 16401 N.E. 153 Pl

City: Portland Zip Code: 97230

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: _____

Reverse side comments will be made a part of hearing transcript.

1. IN PAST MEETINGS ON HOV TRI MET & INTERURBAN TO GRESHAM THE PEOPLE AT MEETINGS HAVE BEEN OVER WHELMING IN PRO-TEST - YET THE MAYOR & TRI MET DO AS THEY PLEASE.

2. WHY DON'T THE STATE OF ORE. OPERATE IT'S FREE WAY.

3. WHY DID YOU WAIT UNTIL WINTER TO DISCUSS THE PROBLEM

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

7

Name: LAUREL WENTWORTH
(Please Print)

Address: 424 S.W. MAIN

City: PORTLAND Zip Code: 97204

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: CITY OF PORTLAND
BUREAU OF PLANNING

Reverse side comments will be made a part of hearing transcript.

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

8

Name: CHARLIE GILBERT, BUSINESS MANAGER
(Please Print)

Address: 10626 N.E. KNOTT St.

City: PORTLAND, ORE. Zip Code: 97220

Do you wish to make a statement: NOT AT THIS TIME (Please check one) ☐ Yes ☐ No

Organization Represented: INTERNATIONAL UNION OF OPERATING ENGINEERS, LOCAL UNION #701

Reverse side comments will be made a part of hearing transcript.

10

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Edward Immel
(Please Print)

Address: 2115 S.E. Morrison St.

City: Portland Zip Code: 97214

Do you wish to make a statement: ☐ Yes ☒ No
(Please check one)

Organization Represented: Multnomah County

Reverse side comments will be made a part of hearing transcript.

11

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: TERRY PARKER
(Please Print)

Address: 1527 NE 65th

City: PORTLAND Zip Code: 97213

Do you wish to make a statement: ☐ Yes ☒ No
(Please check one)

Organization Represented: NONE

(MEMBER PARKROSE TASK FORCE)

Reverse side comments will be made a part of hearing transcript.

FROM THE [illegible] 3 TO
2 R[illegible] LAST BLOCK
SHOULD BE [illegible]
TO GATEWAY TO READ CONDITION
AT [illegible] BOARD LINKED

12

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Robin C. Brooks
(Please Print)

Address: 17960 South Dick Drive

City: Oregon City, Oregon Zip Code: 97045

Do you wish to make a statement: (Please check one) ☐ Yes ☑ No

Organization Represented: ODOT

Reverse side comments will be made a part of hearing transcript.

13

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Carl A. Neuburger
(Please Print)

Address: 1523 SE Tolman

City: Portland Zip Code: 97202

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented:

Reverse side comments will be made a part of hearing transcript.

14

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Lawrence A. Muller
(Please Print)

Address: 8004 N.E. Schuyler

City: Portland Zip Code: 97213

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: Self

Reverse side comments will be made a part of hearing transcript.

15

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: K. G. Tiekin
(Please Print)

Address: 9910 SW N. Dakota

City: Tigard, OR Zip Code: 97223

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: Self

Reverse side comments will be made a part of hearing transcript.

REDUCING
REQUIREMENT TO TWO IS
TACIT ADMISSION OF
FAILURE

17

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Eugene W Brown (Please Print)

Address: 118 NE 16th

City: Portland Zip Code: 97232

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented:

Reverse side comments will be made a part of hearing transcript.

22

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: E. C. Robinson (Please Print)

Address: 6615 Fe alder

City: Zip Code:

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented:

Reverse side comments will be made a part of hearing transcript.

23

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: George Starr (Please Print)

Address: 909 N.E. 114 Ave

City: Portland Zip Code: 97220

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: State Representative
District 17

Reverse side comments will be made a part of hearing transcript.

24

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Michael Meredith (Please Print)

Address: 1500 NE Irving

City: Portland Zip Code: 97202

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: Local & Short Haul
Carriers Conference

Reverse side comments will be made a part of hearing transcript.

26

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Robert F SHEPPERD (Please Print)

Address: 12730 NE Rose Pkwy

City: Port OR Zip Code: 97230

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: MY SELF

Reverse side comments will be made a part of hearing transcript.

ADMINISTRATIVE ORDER

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

ORDER NUMBER 46

DATE December 8, 1978

SUBJECT: Delegation of Authority to Prepare Amendment to Commission Resolution Number 256A to Revise the High Occupancy Vehicle Passenger Requirement.

I, Robert A. Burco, do hereby designate Robert N. Bothman, Administrator, Metropolitan Branch, to prepare a proposed amendment to Commission Resolution Number 256A, revising the number of passengers required to define a high occupancy vehicle for purposes of using the Banfield HOV lanes from three or more to two or more, publish notice of hearing on the proposed rule amendment, conduct a hearing to be held January 16, 1979 on the proposed rule amendment, and prepare a written summary of statements, and exhibits, and other data received, together with a recommendation for action and present this material to the Commission.

Robert A. Burco

Robert A. Burco
Director of Transportation

DISTRIBUTION:
Assistant Director for Operations
Assistant Director for Administration
Administrator, Metropolitan Branch
Manager, Commission Services
Chief Counsel
General Files

#8259

ROBERT W. STRAUB
GOVERNOR

Department of Transportation
METROPOLITAN BRANCH
5821 N.E. GLISAN, PORTLAND, OREGON 97213

December 6, 1978 Telephone 238-8226

William H. Young, Director
Department of Environmental Quality
522 Southwest 5th
Portland, OR 97201

I appreciate your consideration of my letter of November 3 requesting reconsideration of the necessary expenditure of resources and funds to process the Indirect Source Permit on the Banfield HOV Lane project to revise its operations to better serve the transportation needs.

With the three and a half week delay in your response, we have proceeded to finalize the Indirect Source Permit and have submitted that for your consideration. The revision which we are attempting in Portland has been approved by the U.S. Department of Transportation in other cities and has been found to be an effective way for better utilization of transportation investments, at the same time not providing a substantial negative impact on the air quality.

I do need to explore with you a substantial conflict which is developing between providing transportation to Oregonians and at the same time providing clean air to the same Oregonians.

ORIGINAL SIGNED BY R. N. BOTHMAN

R. N. Bothman
Administrator

RNB/ke

cc: F. B. Klaboe
G. Potter

RECEIVED
DOT OPERATIONS
DEC 07 '78
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

7877

ROBERT W. STRAUB
GOVERNOR

Department of Environmental Quality

522 SOUTHWEST 5TH AVE. PORTLAND, OREGON

MAILING ADDRESS: P.O. BOX 1760, PORTLAND, OREGON 97207

November 21, 1978

MA PDM HDE TSE SPC
ODOT - METRO

NOV 28 1978

AM PPS EBG FILE JTA

Mr. Robert N. Bothman
Administrator, Metropolitan Branch
Department of Transportation
5821 N. E. Glisan Street
Portland, OR 97213

Dear Mr. Bothman:

The Department views the proposed change for the carpool requirement of the restricted lanes on the Banfield Freeway from three persons to two persons as significant with a potentially negative impact on air quality. The concept of operating the restricted lanes with carpools of three persons appeared attractive because VMT would be reduced while at the same time person capacity would be increased. While the project has not been as successful as was originally hoped, we note that it has achieved some measure of success. Even if the traffic forecasts prove accurate, the proposed change would not have the effect of reducing VMT. On the contrary VMT is projected to increase slightly. As you may know, one of the keys to improved air quality is the reduction of VMT.

The Department is in the process of developing the State Implementation Plan (SIP) revisions mandated by the Clean Air Act Amendments. The Transportation-Air Quality Planning Guidelines of June, 1978 jointly issued by the U.S. Environmental Protection Agency and U.S. Department of Transportation specifically lists exclusive bus and carpool lanes as a "reasonably available control measure" which along with other identified measures should be analyzed promptly and thoroughly. Any proposal that potentially dilutes the effectiveness of this particularly identified measure is of concern to the Department.

We believe that we have a firm basis for requesting the Indirect Source Construction Permit application. Without the air quality study, the impact of the proposed change on air quality would be more difficult to ascertain. The air quality study should reveal what levels of air quality we may expect if the traffic forecast proves accurate and it could also serve as a basis for estimating air quality impacts if the HOV lanes become congested, contrary to the forecast.

Based on the foregoing and our understanding that the analysis is nearly complete, we continue to request the Indirect Source Construction Permit application.

Sincerely,

Bill

WILLIAM H. YOUNG
Director

WHY/HWH:as

ROBERT W. STRAUB
Governor

Department of Transportation
METROPOLITAN BRANCH

5821 N.E. GLISAN, PORTLAND, OREGON 97213

Telephone 238-8226

November 3, 1978

BILL YOUNG
Director, DEQ
522 S.W. Fifth
Portland, OR 97201

The Banfield High Occupancy Vehicle Lane Technical Advisory Committee recently voted to recommend changing the carpool requirement for use of the restricted lanes on the Banfield Freeway from three persons to two. With the exception of two abstaining members, D.E.Q. and Tri-Met, the committee vote was unanimous in its approval.

The committee members voting for the change represent: FHWA, City of Portland, Multnomah County, the private citizen, Oregon State Police, and the Oregon Department of Transportation. In addition to this support, Mayor Neil Goldschmidt has written a letter to me recommending the change.

We have been advised by Howard Harris, DEQ's representative on the advisory committee, that before this change may be implemented we must obtain an Indirect Source Permit. Howard advises that before DEQ can issue this permit, a traffic analysis and an air analysis on the effects of the change must be made. The traffic analysis has been completed and a copy is attached.

Examining this analysis, I find the effects of the change to be insignificant. For ease of comparison a summary sheet tabulating the differences is also attached.

Looking at the difference column you will see that the net effect of the proposed change is an increase of thirty (30) vehicles in the corridor westbound during the AM peak hour and fifty (50) vehicles during the PM peak hour. This is less than a 1% change in the traffic volumes. The computer model used for the air analysis is not sufficiently refined to calculate the chemical quantities to that degree of accuracy.

I therefore question the need to continue with the expenditure of very limited State tax dollars and our staff time to proceed with the air analysis when it is obvious that the answer is that there will be no detectable difference in air quality. The savings that can be realized are approximately $2,000, three weeks staff time from ODOT, the savings to DEQ, and action for the public.

The HOV lanes are a temporary experimental solution to the transportation problems in this corridor. The final solution has local approval and is headed for completion in five years.

During the interim period while the HOV lanes are in effect, we will continue traffic monitoring to measure the actual traffic changes that take place and be able to determine the accuracy of our traffic analysis.

The HOV Lane Technical Advisory Committee will also remain intact so all concerned will be kept informed on what is happening.

Considering the negligible change and nature of the project, I am requesting you reconsider the need to process the Indirect Source Permit for this revision in operations.

R. N. Bothman
Administrator

cc: F. B. Klaboe

Attachment

RNB/ke

BANFIELD FREEWAY

Comparison of
3 Person vs. 2 Person Carpools

A.M. PEAK HOUR WESTBOUND

Location	3 Person Carpools (Existing Conditions)		2 Person Carpools (Predicted Conditions)		Difference	
	Vehicles	Average Speed	Vehicles	Average Speed	Vehicles	Average Speed
HOV Lane	200	54	780	54	+580	0
Non-HOV Lanes	3750	38	3500	40	-250	+2
Freeway Total	3950	-	4280	-	+330	-
Arterial Streets	3270	26	2970	28	-300	+2
West Bound Total	7220		7250		+ 30	

P.M. PEAK HOUR EASTBOUND

Location	3 Person Carpools (Existing Conditions)		2 Person Carpools (Predicted Conditions)		Difference	
	Vehicles	Average Speed	Vehicles	Average Speed	Vehicles	Average Speed
HOV Lane	280	48	925	48	+645	0
Non-HOV Lanes	3600	35	3305	38	-295	+3
Freeway Total	3880		4230		+350	
Arterial Streets	2910	21	2610	24	-300	+3
	6790		6840		+ 50	

TRANSPORTATION ANALYSIS UNIT
METRO BRANCH

Banfield Freeway
Analysis of 3-Person to 2-Person HOV Lane Use

Analysis has been made assuming the restrictions on the Banfield HOV lanes are changed from the existing 3-person to 2-person vehicles.

The westbound HOV lane begins at 82nd Avenue and terminates in the vicinity of 21st Avenue while the eastbound lane begins east of 39th Avenue and ends at 82nd Avenue. At the present time, the inbound HOV lane is restricted to carpools of 3 or more persons and buses during the hours of 6:30 to 9:30 AM. The eastbound lane is restricted to 3 or more person carpools and buses during the hours of 3:30 to 6:30 PM.

Data collected on the Banfield Freeway and on parallel arterial streets was analyzed to determine the HOV lane usage if the 3-person carpool restriction were reduced to 2 persons or more. The AM peak hour volume westbound on the Banfield Freeway in the vicinity of 47th Avenue is 3,950 VPH with 200 of these vehicles in the HOV lanes. During the PM peak hour the outbound traffic volume on the Banfield Freeway is 3,880 vehicles with 280 vehicles in the HOV lanes. The outbound traffic volume in the HOV lanes is slightly higher than the morning inbound due to more shopping and miscellaneous trips in the afternoon period. Table 1 shows the existing conditions on the Banfield Freeway and arterial streets.

Table 2 shows the changes in volume and lane usage if the restrictions were lowered to 2-person carpools. Total traffic volume inbound on the freeway during the AM peak period would increase to 4,280 vehicles,

780 of those vehicles would be in the carpool lane while 3,500 would be in the non-HOV lanes. During the PM peak period of travel, traffic volumes on the freeway would increase to 4,230 vehicles with 925 vehicles in the HOV lanes.

Further analysis of Tables 1 and 2 show that during the morning peak period the arterial street traffic volumes would decrease in the inbound direction from 3,270 to 2,970, a decrease of 300 vehicles on city streets. In the evening peak period arterial streets would decrease from 2,910 to 2,610 vehicles, or again 300 vehicles. These vehicles will be diverted to the Banfield Freeway and occupy the non-HOV lanes where excess capacity has become available or diverted to the HOV lanes.

It should be noted that the reduction in vehicle occupancy requirements for the HOV lane will result in a slight increase in the total number of vehicle trips during the peak periods. During the AM peak period, total vehicles on both the freeway and arterial streets will increase from 7,220 vehicles to 7,250 vehicles. Also in the afternoon peak period total screenline volumes will increase from 6,790 to 6,840 vehicles. This increase in total trips is due to the formation of new 2-person carpools from the existing 3-person carpools.

Although there is a slight increase in vehicles during peak periods, the average speed in the corridor will improve during the peak periods. This will result from better utilization of capacity available in the corridor.

TABLE 1

Banfield Freeway and Arterial Streets
Existing Conditions (Three Person Carpools)

FREEWAY

	TOTAL VEHICLES	SPEED	TRUCKS
AM PEAK			
W.B. HOV	200	54	-
W.B. NON-HOV	3,750	38	160
E.B.	2,560	48	100
	6,510		260
PM PEAK			
E.B. HOV	280	48	-
E.B. NON-HOV	3,600	35	160
W.B.	2,870	54	110
	6,750		270
DAILY			
W.B.	47,690	54	2,380
E.B.	46,280	48	2,610
	93,970		4,990
Average Hour of Peak 8 Hrs.	6,200	50	310

ARTERIALS

	VOL	SPEED	TRUCKS
AM PEAK			
W.B.	3,270	26	70
E.B.	700	30	15
	3,970		85
PM PEAK			
W.B.	1,520	30	30
E.B.	2,910	21	60
	4,430		90
DAILY			
W.B.	24,850	30	1,240
E.B.	21,980	30	1,100
	46,830		2,340
Average Hour of Peak 8 Hrs.	3,280	30	160

TABLE 2

Banfield Freeway and Arterial Streets
1978 Condition (Two Person Carpool)

FREEWAY

AM PEAK	VOL	SPEED	TRUCKS
W.B. HOV	780	54	-
W.B. NON-HOV	3,500	40	160
E.B.	2,560	48	100
	6,840		260
PM PEAK			
E.B. HOV	925	48	-
E.B. NON-HOV	3,305	38	160
W.B.	2,870	54	110
	7,100		270
DAILY			
W.B.	47,990	54	2,380
E.B.	46,580	48	2,610
	94,570		4,990
Average Hour of Peak 8 Hrs.	6,200	50	310

ARTERIALS

AM Peak			
W.B.	2,970	28	70
E.B.	700	30	15
	3,670		85
PM PEAK			
W.B.	1,520	30	30
E.B.	2,610	24	60
	4,130		90
DAILY			
W.B.	24,550	30	1,240
E.B.	21,980	30	1,100
	46,530		2,340
Average Hour of Peak 8 Hrs.	3,280	30	160

#8259

8

DATE: November 22, 1978

TO: Oregon Transportation Commission

FROM: F. B. Klaboe, Assistant
Director for Operations

SUBJECT: Banfield HOV Lane

On the Consent Calendar for the November 28 meeting will be a request to approve the commencement of the Administrative Procedures Act requirements for a rule change to allow two-person carpools legal use of the Banfield HOV Lane.

As you will remember, in the spring of 1977 the Commission asked the HOV Technical Advisory Committee to consider revising the HOV Lane operations to allow use of the restricted lanes by two-person carpools and taxis without fares and to shorten the time of restricted use.

The Advisory Committee approved the use of the lane by taxis with a fare (later changed to eliminate the need for a fare) but voted against the two-person carpool and the time change. The Committee asked that the change to two-person carpools not be considered until some new incentive schemes (downtown parking program, new park and ride lots in Gresham, additional promotion, etc.) were implemented and their effects on the HOV Lane use determined.

The incentives have been implemented and now, after being given a reasonable time for use development, we find the effect on the HOV Lane use to be undetectable.

The Advisory Committee now recommends changing the carpool requirement from three to two persons. Their recommendation is attached. As a part of their recommendation, they ask that ODOT continue monitoring a few key functions to determine the effects of this change. The Advisory Committee would continue to function and review the operation of the HOV Lane at six-month intervals. If, based upon certain criteria, those effects are adverse, the OTC should consider recommendations from the Committee for reverting back to three-person carpools or some other possible changes.

Since we had planned to continue an abbreviated monitoring program anyway, this causes no problem.

Our Metro Transportation Analysis Unit has analyzed the traffic conditions in the Banfield Corridor during the peak hours and predicted that there will be an additional 600-650 vehicles in the HOV Lane during each of the peak traffic hours. Of these additional vehicles, it is estimated that half will come from the regular freeway lanes and the other half drawn from the parallel arterial streets. The HOV Lanes should continue to operate with no congestion. The other freeway lanes and the arterial streets should pick up two-three miles per hour in speed because of the reduction in the traffic volume.

Our schedule for implementation is:

November 28, 1978	Request OTC approval to begin APA procedures
December 6, 1978	Submit proposed Resolution to Secretary of State, etc.
January 16, 1978	Public Hearing
February 20, 1979	Request OTC approval to amend Resolution
February 25, 1979	Revise freeway signing
February 26, 1979	New occupancy requirement in effect.

Your approval is recommended.

Attachments

bc: Robert A. Burco
H. S. Coulter
E. S. Hunter
Jack Sollis
C. W. Head
R. N. Bothman
George Bell

RNB:js srb

PROPOSED RESOLUTION

WHEREAS, ORS 483.532, as amended by Oregon Laws 1975, Ch. 698, provides that the Department of Transportation, with respect to highways or streets under its jurisdiction may designate lanes to be used by buses or high-occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation; and

WHEREAS, the Banfield Freeway, Oregon Highway Number Two is under the jurisdiction of the Department of Transportation; and

WHEREAS, the designation of lanes on the Banfield Freeway for exclusive use by buses and high-occupancy passenger vehicles, including properly licensed or franchised taxicabs, would help to conserve energy by encouraging carpooling and would facilitate public transportation; and

WHEREAS, the Commission has determined that since taxicabs are an essential ingredient of Portland's transportation system, their operation without unnecessary restraint would facilitate public transportation.

NOW, THEREFORE, Resolution Number 256, adopted by the Oregon Transportation Commission on November 25, 1975, is hereby amended to read as follows:

1. The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

   a. The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

   b. The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

2. For purposes of this rule, "high occupancy passenger vehicle" means a passenger vehicle carrying TWO (~~three~~) or more passengers, or a properly licensed or franchised taxicab.

3. Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

4. The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

5. The designation of taxicab use in high-occupancy lanes shall take place upon Commission approval.

This resolution shall be entered in the minutes and records of the Oregon Transportation Commission this _____ day of _____, 1978 as Misc. Resolution No._____.

11/17/78

TO: Oregon Transportation Commission

FROM: Banfield HOV Lane Advisory Committee

The monitoring of the HOV project continues to indicate an increase in people using the HOV Lanes during peak hour periods. However, this increase (6 percent increase Jan. - June 1978 over Jan. - June 1977) still leaves the HOV Lane underutilized. After reviewing the traffic data, this committee feels it would be pertinent at this point to initiate a method to increase utilization of the HOV Lane. Therefore, it is our recommendation that the definition of a high occupancy vehicle be revised from three to two people.

This committee is, however, quite concerned about possible loss of incentive to carpools and transit riders to the recommended change. Therefore, as a part of this recommendation, it is requested that:

1) The demonstration project be continued, with monitoring of traffic for a minimum of one year with an evaluation after six months.

2) The Banfield HOV Lane TAC be continued, and if through analysis of the traffic data shown below, it is found the carpool and transit incentive is lost because the traffic in the HOV Lanes no longer have benefit over the traffic in the normal lanes, the three person requirement be reconsidered.

   Traffic speed differential between the HOV Lanes and the normal lanes becomes less than 5 MPH.

   The number of accidents along the HOV section of the Banfield Freeway increases to an unacceptable level.

   The violation rate of the HOV Lane becomes greater than an acceptable level for a period of three months.

   The number of vehicles using the HOV Lane becomes greater than 1400 vehicles per hour.

   Tri-Met is unable to maintain schedule reliability due to congestion in the HOV Lane.

js

81-125-1287

STATE OF OREGON

INTEROFFICE MEMO

METROPOLITAN SECTION — DEPT.

238-8226 — TELEPHONE

TO: F. B. KLABOE
Chief of Operations

DATE: November 17, 1978

FROM: R. N. BOTHMAN
Metropolitan Administrator

SUBJECT: Two-Person Carpools
Banfield HOV Lanes

The Banfield HOV Lane Technical Advisory Committee has made a recommendation that the carpool requirements for legal use of the restricted lanes be lowered from three person occupancy to two. A copy of the committee's recommendation is attached. The committee is concerned about the possible loss of incentive to carpool or use of the buses as a result of this change. They have, therefore, requested as a part of their recommendation, that we continue an abbreviated monitoring program and re-examine the effects of the change in six months. If, based upon certain criteria, the effects are negative, the Advisory Committee would request that the Commission consider revising the carpool requirement back to three persons or other possible changes.

We had planned to continue a mini-monitoring program, anyway, so that presents no problem, and I would assume that the Commission would consider recommendations the Advisory Committee were to make.

A copy of the proposed amended Resolution is also attached. Jack Sollis has already given Max Klotz telephonic approval as to form.

I need the Commission's approval to commence the Administrative Procedures Act rule change requirements (legal notice, public hearing, etc.) that are necessary before we can implement the revision.

Because of enforcement problems once word of a possible change is made public, the state police and the Advisory Committee ask that we play the revision low key until we have to give it publicity for the hearing.

If you concur, please have the request to commence APA proceeding placed on the November 28 OTC consent calendar and ask George Bell not to make a press release.

Information is included for transmittal to the commissioners.

js

cc: C. Head
J. Sollis
M. Klotz

81-125-1307

STATE OF OREGON

INTEROFFICE MEMO

Technical Services — DEPT.

238-8231 — TELEPHONE

TO: JACK SOLLIS
Ass't. Attorney General
Legal Section

DATE: November 9, 1978

FROM: MAX J. KLOTZ
Technical Services Engineer
Metro Section

SUBJECT: Amendment to the Rule Establishing the Banfield HOV Lanes

AGENDA
NOV 28 1978
4a - 5

The Technical Advisory Committee for the Banfield HOV Lane experimental project will recommend to the Oregon Transportation Commission amending Miscellaneous Resolution No. 256A to allow two person carpools legal use of the restricted lanes. This would be instead of the three person requirement that now exists.

It appears to me that this change may be made simply by substituting two for three in item No. 2 in Misc. Res. No. 256A (see attachment). If this is the case, we will make that change and proceed through the A.P.A. process with that proposed resolution.

Please have this checked to make sure I am correct and let me know.

Our plan is to request Commission approval to proceed with the hearing, etc. at the November 28th meeting.

Attachment

cc Cecil Head
w/attachment

pq

NOTED
C. W. HEAD

81-125-1367

8259

NOTED
H. S. COULTER

---

211 Transportation Building

November 1, 1978

RECEIVED
STATE HWY ENGR
NOV 2 '78
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

Major E.E. Brandaw
Traffic Division
Oregon State Police Department
107 Public Service Building
Salem, OR 97310

Re: Definition of Busses (HOV lanes - Banfield Freeway - Portland)

In reviewing the rule adopted by the Transportation Commission I find that the term used was "busses." In reviewing the statutory definitions in the Motor Vehicle Statutes they use the term "motor bus" and "school bus."

As the rule adopted by the Transportation Commission did not utilize a statutory definition of bus then we must look to the dictionary to determine the definition of bus. Webster's Third New International Dictionary defines bus as "a large motor-driven vehicle designed to carry passengers, usually according to a schedule along a fixed route but sometimes under charter for a special trip;" "any vehicle either publicly owned or privately owned and operated for compensation used for transporting children to and from school;" "any of various conveniences resembling a bus."

It would be my informal opinion that as far as enforcement of the utilization of the HOV lane that the officer should use a common sense approach and if the vehicle is a bus regardless of whether it is a commercial bus, school bus, church bus, YMCA bus or whatever, if it in fact in the use of common sense is a bus, then it is entitled to use the HOV lanes. If this informal interpretation presents any problem, please give me a call.

Sincerely yours,

Jack L. Sollis
Assistant Attorney General and Counsel

JLS:jw

THE CITY OF
PORTLAND
OREGON

7877
(120)

PDM PDE TSE SPC
ODOT - METRO

OCT 11 1978

AM PPC ebg FILE T/A

OFFICE OF
THE MAYOR
NEIL GOLDSCHMIDT
MAYOR

1220 S. W. FIFTH AVE.
PORTLAND, OR. 97204
503 248-4120

October 10, 1978

Robert Bothman, Administrator
Oregon Department of Transportation
Metropolitan Section
5821 N. E. Glisan
Portland, OR 97213

Dear Bob:

Over the past year, I have had the opportunity to review status reports from City staff assigned to the Banfield HOV Lane Project Study. As you are aware, I have supported this project due to its important objectives in air quality improvement, transit and carpool orientation, and congestion relief in the Banfield corridor. As such, I believe the Department has done a good job of monitoring the project and adjusting the operational characteristics in an effort to maximize the utility of the HOV lanes.

However, recent reports and information which I have received indicate that while transit ridership continues to increase in buses using the HOV lanes, the use of carpools seems to have leveled off. I understand that there has been some discussion of the possible redefinition of the carpool from three passengers to two passengers, a change which would result in significant increases in the number of vehicles using the lanes, thus, adding capacity to the Banfield.

I would like to take this opportunity to set forth my support for this change in carpool definition, with the expectation that it will result in even greater efficiencies and capacities in the project. It is also my expectation that such a change will not result in severe impedance of transit vehicles using the lanes, and that

10-23-78 AM
cc Bothman
Klaboe
Hoyt

NOTED
F. B. KLABOE

State Police enforcement will continue to insure the traffic flow benefits which will be realized.

In taking this position, I also propose that you consider retention of the HOV lanes in the Banfield until such time that implementation of the Banfield Transitway is underway or completed, whichever is feasible. It is clear that the maximization of the capacity of the Banfield provides benefits not only to residents who use the facility, but also to City neighborhoods along parallel arterials on which relief is attained. Hopefully, the Department of Environmental Quality will recognize the merits of this change, or evolution, in the project, if their approval is needed.

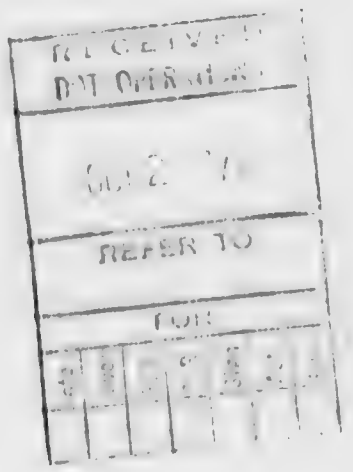
If I can be of assistance in this matter, please contact my office. Thank you.

Sincerely,

Neil Goldschmidt

NG:dcc

cc: Members of Portland City Council
Glenn Jackson, Chairman, Oregon Transportation Comm.
Robert Burco, Director, Oregon Depart. of Transp.
Don Clark, Chairman, Multnomah County Commission
Bill Young, Director, DEQ



U. S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

SUBJECT	FHWA BULLETIN
FHWA-RD-78-59 AND 60 "BANFIELD HIGH OCCUPANCY VEHICLE LANES" TECHNICAL REPORT AND APPENDICES	September 12, 1978

Distributed with this bulletin are the subject reports. The technical report provides a detailed evaluation of the bus and carpool lane installed on the Banfield Freeway in Portland, Oregon. The report will be of particular interest to planners and engineers who may be involved in planning, designing, and operating priority lanes for high occupancy vehicles.

The Banfield Freeway was modified from a four-lane divided facility to a six-lane divided freeway with the median lane reserved for carpools and buses during peak hours. The shoulders were removed to allow the extra lane and the lane widths for regular traffic were reduced to 11 feet (3.3 meters). Emergency pullout bays were constructed at about 2,000 foot (600 meter) intervals.

The evaluation results indicate that during the peak hours the number of three or more person carpools increased from 106 to 518, bus ridership increased from 300 to 633 persons per day, the violation rate was measured to be about 12 percent, and the accident rate is about the same as it was prior to the restricted lane operation.

The Appendices to the final report on the "Banfield High Occupancy Vehicle Lanes" provide the procedures used for monitoring the effects of this special use lane. The various survey forms and analysis techniques should be of particular interest to others who may be considering such a study.

The evaluation studies consisted of measuring corridor volume counts, occupancy counts, travel times, truck counts, high occupancy vehicle (HOV) lane violations, bus ridership, park and ride lot use, accidents, and ambient air monitoring. The details of each of these studies are provided, including the procedures used for data collection and the analysis.

Copies of these reports are being distributed to provide a minimum of two copies of the technical report to each regional office, two copies to each division office and two copies to each State highway agency. The division and

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DISTRIBUTION: Special — Headquarters, Regions, Divisions

OPI: HRS-33

81-125-1387

#825-7

9

STATE OF OREGON **INTEROFFICE MEMO**

ODOT METRO (DEPT.) 238-8226 (TELEPHONE)

TO: Fred B. Klaboe
Chief of Operations

DATE: September 8, 1978

FROM: R. N. Bothman
Administrator

SUBJECT: Banfield HOVL - Two Occupant Car Pool

The advisory committee for the Banfield HOV Lanes project has endorsed the reduction of occupants required for a car pool on the Banfield HOVL from three to two. This has approval of the City of Portland and Multnomah County. Tri-Met and DEQ both abstained from voting. The state police and citizen members approved the proposal.

The next step is twofold. First is to request approval of the Commission to proceed with the administrative hearing necessary for this rule change, and second, to proceed with the air quality study required by DEQ to get an indirect source permit. The schedule is geared primarily to the air quality study to be initiated November 1 and completed December 1, leading to approval by DEQ (hopefully) February 1. The process of carrying out the administrative hearing does take about two months. A schedule with the initial action by the Commission in November would not conflict with the Banfield Transitway project. We did not want to go to the Commission in October to minimize the time between the Commission's action and the actual change in the rule because of the enforcement problem.

The major issue is better utilization of the Banfield Freeway, improving the public response to the HOV Lane, and addressing the question raised in the last session of the legislature. The effort to accomplish the air quality study includes approximately five man weeks of work at a cost of $3000, which will be charged to the state construction prefix assigned for miscellaneous projects.

I believe the results to be worth the effort. I would appreciate any comments you might have before we initiate this study.

ke

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SEP 08 '78
REFER TO
FOR
Info | Invest | I&D | D/R | Sign | Act | File

9-8

c/c Bruce - Rubin - Hunter - Coulter - Mocking

Bob: I have nothing to add. Please keep me informed of progress. Fred

81-125-1387

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

METROPOLITAN BRANCH

5821 N.E. GLISAN, PORTLAND, OREGON 97213

August 29, 1978 Telephone 238-8226

Mr. Peter Cass
General Manager
Tri-Met
4012 Southeast 17th
Portland, OR 97202

Dear Mr. Cass:

A package was developed in 1975 to establish High Occupancy Vehicle lanes on the Banfield Freeway. Part of that package was the acquisition of ten buses to be used as Banfield Flyer Express buses on the HOV lanes.

The project immediately had substantial results in obtaining both bus and car pool ridership. However, during the past year, the car pool ridership has definitely leveled off with no appreciable gain. On the other hand, the bus ridership has continued to show increase and promise.

The jurisdictions working with the advisory committee on the project of evaluating the results of over two and one half years of operation have approved several modifications, including the reduction of hours and this month two occupant car pools.

The Department of Transportation is concerned with the utilization of the HOV lane, the entire freeway facility, and the public investment for that facility. It is my opinion that removal of any of the Banfield Flyers utilizing the HOV lane will have an impact on the retention of the HOV lanes.

With the several incentive programs which are being pursued by Tri-Met to increase the utilization of the HOV lanes, it does not seem appropriate at this time to reduce the capability of that facility to absorb additional passengers.

The reduction of the Banfield Flyers from ten to seven would certainly reduce the capacity of that system and raise the question of whether the HOV lanes should be maintained.

R. N. Bothman
Administrator

cc: F. B. Klaboe

Attachment

RECEIVED
DOT OFFICE

Form 734-3122

Tri-Met mulls service cuts in light of expected $600,000 budg

By DAN HORTSCH
of The Oregonian staff

Tri-Met is look[illegible] service cuts and reductions [illegible] cut its costs by $600,000 d[illegible] current fiscal year.

The cuts, which would be in effect next January if adopted by the board of directors later this fall, generally involve modifications in schedules or routes, rather than outright elimination of service.

At the same time, Tri-Met is preparing to institute service to Swan Island, [illegible]ve the work force at the industrial [illegible]nd to begin some service, later [illegible]ed, to Tektronix plants in the Beaverton area.

One of the alterations, which were discussed informally by the board Thursday, would change the late night "Owl" schedules from one-hour service to two-hour waits between buses.

Elimination of the Owl lines was proposed last year, but was rejected because such action would hit night workers who are dependent on public transit. Fewer than 250 people ride the seven late-night lines each night. They run between 1:30 a.m. and 4:30 a.m. from downtown, leaving on the half-hour.

Some "underutilized" peak hour runs could be cut on various lines, the board members were told. Another proposal would eliminate the "Banfield Flyer" express buses that operate each morning from the Mall 205 parking lot and return to it each evening during rush hour.

Flyer service, which also operates out of the Gresham area, uses the Banfield freeway's restricted lanes to speed up the trip. The Mall 205 flyers have been operating with fewer passengers than the other flyer buses, and the area is served by three other routes.

Donald MacDonald, senior manager for service planning, said the Mall 205 express buses save riders about five minutes, not enough to lure them from the regular runs.

Paul Bay, planning director, said he is worried that psychologically the cut would be bad because of the past emphasis placed on the importance of the restricted lanes on the Banfield.

Another service cut would remove Line 73 — 92nd/102nd Avenue — from service because it carries relatively few riders and the area is served by other lines, MacDonald said.

Other changes discussed Thursday were reductions in service, not line eliminations. Still other possible changes are being studied, the board was told.

While the Swan Island and Tektronix service additions would cost Tri-Met money, the reductions mentioned Thursday would still produce an estimated net savings of $700,000 if all were adopted, officials were told.

One problem the agency faces in making changes, officials said, is that the union agreement with the drivers calls for 60 percent of the shifts to be straight, that is, without layover periods during the shift.

Therefore, if a straight shift is eliminated from the schedule, Tri-Met has to remove 1½ split or peak-hour shifts to maintain the ratio. Split shifts give the [illegible]

MA PDM PDE TSE SPC
ODOT - METRO

AUG 25 1978

AM PPS FILE T/A

CC: [illegible]

M.J. KLOZ

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nulls service cuts in light of expected $600,000 budget deficit

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ODOT - METRO
AUG 25 1978
AM PPS (FILE) T/A

CC: ...

M.J. KLOZ

Calendar of Events for Marketing of
CARPOOL PROGRAM on Banfield HOV Lanes

Ongoing Program CARPOOL Matching Service by Tri-Met Staff

Fall 1975	- 20,000 per construction brochures distributed explaining the HOV project
Fall 1975	- Slide show explaining Banfield HOV lane was made to CBD employers and the distribution of 55,000 brochures to employees in the CBD explaining the operational aspects of the Banfield HOV lane i.e. 3 or more person carpools
Fall-Winter 1975	- 22 billboards "Express yourself on the Banfield Freeway" were placed on feeder arterials to the Banfield Freeway
Winter 1975	- Radio spots promoting the Banfield HOV lanes
Winter 1975	- 20,000 operational brochures distributed to motorists exiting the Banfield Freeway at selected off-ramps
Winter 1975-76	- A special mailing to all CARPOOL applicants from East Multnomah County was conducted after the lanes went into effect. Approximately 1,500 persons received this mailing
Winter 1975-76	- Phone calls for CARPOOL matching assistance increases 20 percent in the first month of the Banfield HOV lane operation
Spring-Summer-Fall 1976	- "Band Together" CARPOOL TV spot on television
Fall 1976	- Installation of "For CARPOOL Information Dial C*A*R*P*O*O*L (227-7665)" sign along the Banfield Freeway
Fall 1976	- Five billboards with "Band Together" theme placed on feeder arterials to Banfield Freeway
Fall-Winter 1976	- Calls for CARPOOL matching service continue to exceed requests for same time period in 1975
November 1976	- CARPOOL survey of users of Banfield Freeway mailed out to 258 users of Banfield HOV lane and 2,262 to users of normal traffic lanes (not all CARPOOLERS)
1976	- Mailings made to employers in the CBD concerning use of Banfield HOV lanes for their employees
Fall 1976	- C*A*R*P*O*O*L (227-7665) signs erected on arterial streets feeding the Banfield Freeway

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#8259

July 31, 1978

To - R. A. Burco - Director

From - Ted Spence - Policy & Planning Coordinator

Subject: Oregon Department of Transportation Support of CRAG Regional Systems Planning

SEE: INT 9-34

#8259

STATE OF OREGON

ODOT METRO — DEPT.

(238-8226) — TELEPHONE

INTEROFFICE MEMO

BM 9.7

TO: Max Klotz
Technical Services Engineer

DATE: July 24, 1978

FROM: R. N. Bothman
Administrator

SUBJECT: Banfield HOV Lane

Bothman — B/up. ~~Dept. Commissioners~~ ~~Smith~~.

The Transportation Commission instructed staff to implement two person car pools, allow taxis on the HOV lane and shorten the hours of operation to two hours May 17, 1977.

Following that direction in June, the Banfield HOV Advisory Committee adopted the position which favored pursuing a series of incentives to increase the use of the Banfield HOV lane during the peak hours from the current 1200 persons per hour to 2000 persons per hour in 1979. The schedule was to reach 1400 persons per hour in January of 1978, 1600 per hour by April 1978.

The committee's recommendation to the commission was to continue the current operation of the HOV lane, allow the incentive program to be implemented September 1 and monitored through 1978. The committee recommended that if the program could not be implemented or failed to achieve its goals, the commission consider the option of two person car pools or other measures to increase the use of the Banfield HOV lane.

The use of the HOV lane by the end of April 1978 had increased from a 1977 average of 1233 people to an average of 1288 as compared to the objective of 1600. It would appear to me that not only has the goal not been attained, but the growth has not been attained.

I felt that the objectives of the project are served only by maintaining the three occupant car pool. However, the project now having spanned nearly three years, trends have been established which I think we must consider in reevaluating what we should do in the future.

Several other locations, specifically in Florida, have gone to two occupant car pools as a solution to the unused HOV lane operating adjacent to highly overused normal traffic lanes.

Doug Wright, in discussion July 20, expressed considerable interest in reconsidering the utilization of two occupant car pools.

The legislative interest has been renewed, specifically by George Starr; and reconsideration should be given to more effective use of the HOV lane prior to the 1979 legislature.

Another consideration is the decision on the Banfield which is currently scheduled by Tri-Met in September and the local jurisdictions in October.

In correspondence of May 23, 1977, Bill Young, director of DEQ, advised that the use of two person car pools on the Banfield HOV lanes would require an indirect source permit.

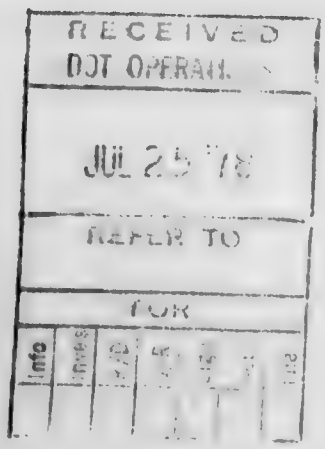
If you assume a peak hour auto volume at 47th Ave. of 4400 vehicles and a 25% occupancy rate of 2 or more passengers, the potential utilization of a two occupant HOV lane would be 1100 vehicles with an even distribution that would allow approximately 1650 vehicles in the two remaining regular auto lanes.

I believe we can carry upwards to 1600 vehicles per hour with a satisfactory level of service. This would allow us a 30% growth in two occupant car pools before we would reach the point of reverting to three occupant car pools. The experience in the increase over the last two years would indicate that that would not occur until the completion of the Banfield Transitway project in 1984. We simply are not experiencing an increase in occupancy rate of any substance. It actually indicates to me that occupancy rate is more dependent, with this particular project, on other factors. Subject to those other factors we might later have to make another adjustment in the occupancy of the designated car pool.

I would like you to present to the advisory committee a recommendation that we proceed in accordance with their decisions last year to implement a two occupancy car pool in the Banfield project.

ke

cc: F. B. Klaboe



ROBERT W STRAUB
GOVERNOR

Department of Transportation
METROPOLITAN BRANCH
5821 N.E. GLISAN, PORTLAND, OREGON 97213

July 18, 1978

Telephone 238-8226

REPRESENTATIVE GEORGE STARR
909 Northeast 114th Avenue
Portland, OR 97220

Dear Representative Starr:

The Banfield Freeway HOV lanes were opened for operation in December of 1975. The three-person carpool was established at that time after considerable study and consultation with other agencies who had HOV lanes in operation. The lane was established as an incentive to draw people into buses and carpools, to reduce traffic congestion, to provide a time and fuel savings and to help implement the Clean Air Act in the Portland area.

The three-person occupancy had the best potential to achieve the desired results. Three-person carpool was chosen because at the time, only 1½% to 2% of the vehicles on the Banfield during commuting hours contained three or more persons. The possibility of opening the lane to two-person carpool was examined at the time but was not favored because 20% of the vehicles contained two or more persons. Allowing 20% of the vehicles to use the HOV lane would fill the lane, thereby eliminating the incentive to form new carpools to use the lane. Also, the State Police advised that enforcement of the two-person carpool would be nearly impossible due to the number of vehicles that would be in the lane.

The HOV lane has achieved beneficial results; the number of three-person carpools has risen from the previously mentioned 1½% of the vehicles in 1975 to 6% currently. Other freeways around Portland are still operating at the 1½% to 2% three-person carpool range. The HOV lane carries approximately 21% of the people in 6% of the vehicles travelling the Banfield during the peak hours. Savings in gasoline is now at 178,174 gallons per year.

The incentive to bus and carpool provided by HOV lanes is important. Part of the City of Portland Clean Air Implementation strategy is to reduce the number of vehicles entering Portland. The HOV lane is part of that overall strategy and was a major consideration in approval of the HOV lanes. The Department of Environmental Quality approved the project Indirect Source Permit on the basis that if the restriction on the HOV lane was removed, the freeway would revert to the original lane configuration. Eliminating the HOV lane would reduce the number of lanes to the pre-1976 configuration. Thus, we could not just open all lanes to all traffic; the existing lane striping would have to be removed and the freeway restriped to eliminate the lane that was added for HOV use.

It is understandable that there is much sentiment against the HOV lanes, especially when you consider 79% of the people travelling on the Banfield Freeway do not have the direct benefit of being able to use the HOV lanes. However, they have the indirect benefit of improved air quality and improved traffic flow. Since the addition of the HOV lane, all commuters move approximately 5 miles an hour faster than they did before the HOV lanes were installed. This gain has been realized in spite of the fact that the average daily traffic flowing on the freeway has increased annually approximately 2% to 3%. Another benefit that has surfaced since implementation of the HOV lane is that the safety on the project has improved. The accident rate on the Banfield is now less than it was before the project was implemented.

We do not have unlimited capacity to move cars on our freeway, highway and street system. We must find new ways to allow people to move about as freely as possible. One way to increase the people-carrying capacity of a road network is to promote the use of high occupancy vehicles, thereby moving more people without jamming more vehicles on the road. Later this year, hopefully by October or November, a decision will be made on construction of a new transitway facility in the Banfield corridor. Our position is that the HOV lanes should remain in place and in use until that decision is made and extended to the completion of the transitway, should that be the decision of the community.

I hope this answers your questions in your letter of July 5. If you have any further questions, please don't hesitate to contact me. I would be happy to discuss this matter further with you.

ROBERT N. BOTHMAN
Administrator

DRA/ldo

cc: R. A. Burco
F. B. Klaboe

Attachment

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DOT OPERATIONS
JUL 21 '78
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FOR
Info | Initial | R/S | R/A | Sign | Act | File

Max - 7/7

I have no idea to respond to this letter ie: 2-person carpools will fill up the bus or fill up the lane ? it would help if not ; DEQ - permit could be used for this ? to just open lanes. Our agreement is to return bus to original configuration ? not open HOV to both

Could discuss "plusses" if any

Let dig a S.P. go.

Please give me some help with facts & figure & configuration from prior to tough decision. Easy be simplest way to go

Don

26-1436

HOME ADDRESS
GEORGE STARR
809 NE 114TH AVENUE
PORTLAND, OREGON 97220

MULTNOMAH COUNTY
DISTRICT 17

COMMITTEES
VICE CHAIRMAN:
LABOR
MEMBER:
AGRICULTURE AND
NATURAL RESOURCES
TRANSPORTATION

HOUSE OF REPRESENTATIVES
SALEM, OREGON
97310

July 5, 1978

MA PDM PDE TSE SP
ODOT - METRO
JUL 07 1978
AM PPS
FILE T/A

Robert N. Bothman
Assistant State Highway Engineer
Oregon State Highway Division
Metropolitan Section
5821 N. E. Glisan St.
Portland, Oregon 97213

Dear Bob:

The Banfield freeway traffic situation, as you well know, is a target for a lot of complaints from persons who are frequent users of the freeway but are not in positions to form carpools and therefore are excluded from the HOV lanes during the restricted periods.

As much of the freeway lies in the 17th district and the freeway is used by many district 17 residents between this area and downtown Portland, I'm getting increasingly concerned about the efficiency of the usage of the freeway since the installation of the HOV lanes some time ago.

Because a number of people have contacted me in regard to this problem, I included some questions relating to the freeway in an opinion survey that I circulated late last year. The questions were presented as follows:

"Some people that regularly use the Banfield Freeway feel that there could be a more efficient use of the HOV lane. Would it be a good idea to let vehicles with two people use the HOV lane? Should there be no restrictions on all of the lanes? Would it be better to leave it the way it is until it is rebuilt on completion of the I-205 freeway?"

I want to share with you the sentiment expressed in the hundreds of responses I received. About 4 out of 5 (238 to 64) favored opening the HOV lanes to two-person vehicles. A small majority (162 to 145) thought there should be no restrictions on all of the lanes. They were rather emphatically opposed to leaving it the way it is for now. Only 39% said they thought that would be best.

A number of comments were added following the "yes" and "no" questions. They were that the HOV lanes hadn't worked out well, that the lanes were too narrow, that buses create hazards particularly as they change lanes, and that since we're all paying for it, we should all be able to use all of it.

And I agree with all of this general sentiment. I drive it frequently but with no regular pattern. I rarely have occasion to travel with more than two persons in the car. My trips, and those of many others, are not adaptable to taking the bus. One thing is certain - it's not reasonable to restrict nearly all of the traffic to two very narrow lanes and let the third lane go practically unused during periods of the heaviest loads. Now that taxis can use this preferred lane, the folks are getting more upset than ever before - and they should.

Three or four state troopers patrol the freeway and lay in wait to detect "freeway crimes" when they could very well be deployed in other areas where really serious moving violations are occuring in increasing numbers.

I would very much appreciate some action on the part of the Highway Division to relieve what I believe to be an unfair and unsafe operation. It's been given a fair trial, and it isn't working out. I ask that either the HOV lane be opened to two-person vehicles, at least for a while to see how it works out, or the restrictions removed completely so that traffic could flow equally and evenly.

Thanks for listening, and I'll look forward to your response.

Sincerely,

George Starr

George Starr

8259

June 21, 1978

St. Paul Fire & Marine Insurance Co.
700 Lloyd Five Hundred Building
500 N.E. Multnomah
Portland, OR 97232

Attention: Gene Dietzman
Bond Manager

Gentlemen:

Thank you for your letter of June 9, 1978, concerning the Aska Structures, Inc., claim for materials in the amount of $658 plus interest which was furnished on the K. F. Jacobsen & Co., Inc., Contract No. 8259 in Multnomah County.

Your letter states that since this claim was filed in 1976 Aska Structures, Inc., has been adjudged bankrupt and the Trustee in Bankruptcy, Robert Butts, has settled the claim between Laneguard, Inc., and Aska Structures. We also acknowledge the release signed by Robert Butts.

This information is being noted in our records and we are advising K. F. Jacobsen & Co., Inc., the prime contractor on this contract.

Very truly yours,

C. W. Head
COMMISSION SERVICES

CWH:dda

cc K. F. Jacobsen & Co., Inc.
2611 S.E. Fourth Avenue
Portland, OR 97202

6-21-78
held on
case
dw

Portland Service Center
700 Lloyd Five Hundred Building
500 N. E. Multnomah
Portland, Oregon 97232
Phone: 238-6240

The St Paul
Property & Liability Insurance

June 9, 1978

Dept., of Transportation
State Highway Bldg.
Salem, Oregon, 97310

Attn: C.W. Head

RE: CONTRACT NO. 8259
K.F. JACOBSEN CO., INC.

Dear Mr. Head;

On April 2, 1976, you were advised that Aska Structures, Inc., had a claim in the amount of $658.00 plus interest on job number 8259, on Northeast Union Avenue, in Multnomah County.

Since that time, Aska Structures, Inc., has been adjudged bankrupt and the Trustee in Bankruptcy, Robert Butts, has settled the claim between Lane Guard, Inc., and Aska Structures. Please see the attached release relative to that claim. Upon your acknowledgement of the release of the claim, K.F. Jacobsen Co., Inc., will pay $1,000. to Safety Guardrails, Inc., dba: Laneguard, Inc., which is the balance of the retainage being held by K.F. Jacobsen.

Very truly yours,

Gene Dietzman

Gene Dietzman
Bond Manager

RECEIVED
JUN 13 1978
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

NOTED
C. W. HEAD

GD:aj

enc.

perty and Liability Affiliates of The St. Paul Companies Inc.: St. Paul Fire and Marine Insurance Company | St. Paul Mercury Insurance Company
St. Paul Insurance Company | St. Paul Guardian Insurance Company | The St. Paul Insurance Company of Illinois

SAFETY GUARDRAILS, INC.
P.O. BOX 317 • HILLSBORO, OREGON 97123

May 8, 1978

E. F. Jacobsen Co., Inc.
2611 S.E. 4th Ave.
Portland, Oregon 97202

RE: Contract #8259
N.E. Union Ave. - N.E. 82nd Ave.

Gentlemen:

Please find enclosed a release from all claims and liens oving to Aska Structures, Inc. from their attorney in bankruptcy.

Your review of the documents and release of amounts, to us, being held by your firm relating to prior claims made by Aska Structures, Inc. will be sincerely appreciated.

Our thanks for your expeditious processing.

Yours truly,

SAFETY GUARDRAILS, INC.

Robert Wong

RW/sb
Encl.

An Equal Opportunity Employer

IN THE CIRCUIT COURT OF THE STATE OF OREGON

FOR THE COUNTY OF MULTNOMAH

LANEGUARD, INC., an Oregon corporation, Plaintiff, and UNITED PACIFIC INSURANCE CO., an Oregon corporation, Additional Party Plaintiff, vs. ASKA STRUCTURES, INC., an Oregon corporation, and AMERICAN STATES INSURANCE COMPANY, a corporation, Defendants, and ROBERT BUTTS, Trustee in Bankruptcy of Aska Structures, Inc., an Oregon corporation, Additional Party Defendant.	No. A7610-15110 STIPULATION AND ORDER OF DISMISSAL WITH PREJUDICE

Based upon the stipulation of the parties, through their attorneys, which stipulation appears below, it is hereby

ORDERED, that the above-captioned proceeding be and it is hereby dismissed as to all parties with prejudice and without costs to any party.

DATED this _____ day of _____, 1973.

_____
CIRCUIT JUDGE

McMENAMIN, JOSEPH & HERRELL
ATTORNEYS AT LAW
MORGAN PARK BUILDING
PORTLAND, OREGON 97205
TELEPHONE 226-8600

LAW OFFICES
McMENAMIN, JOSEPH, HERRELL & PAULSON
MORGAN PARK BUILDING
720 S. W. ALDER STREET
PORTLAND, OREGON 97205

TELEPHONE
(503) 228-6606

ALOYSIUS A. McMENAMIN
THOMAS J. JOSEPH, JR.
STEPHEN B. HERRELL
JEFFREY A. BAUERMEN
LAWRANCE L. PAULSON
RODNEY LEWIS, JR.

April 12, 1976

Honorable Phillip J. Roth
Circuit Court Judge
536 Multnomah County Courthouse
1021 S. W. 4th Avenue
Portland, Oregon 97204

Re: Laneguard, Inc. v.
Aska Structures, Inc.
No. A7610-15110
Our File Number 9945/1

Dear Judge Roth:

Enclosed is a stipulation and order dismissing the above case with prejudice. We respectfully request that the order be entered and that we be notified of the date of entry by means of the enclosed post card.

The case is presently scheduled for trial on April 20, 1976, and should be removed from the docket.

Respectfully,

SJH:cly

Enclosure

cc: Mr. Robert Butts
Mr. John C. Mercer
Mr. Thomas S. Moore

RELEASE

For and in consideration of the sum of FIFTEEN HUNDRED DOLLARS ($1500) paid by LANEGUARD, INC., to ROBERT BUTTS, Trustee in Bankruptcy of ASKA STRUCTURES, INC., the receipt and sufficiency of which is hereby acknowledged, the undersigned, ROBERT BUTTS, as Trustee in Bankruptcy of Aska Structures, Inc., does hereby release and forever discharge said Laneguard, Inc., its successors, agents and assigns, from any and all claims, demands, damages, liabilities and causes of suit or action arising from a construction contract between Laneguard, Inc., and Aska Structures, Inc., and acknowledges that he has no claim to any moneys which have been withheld by Laneguard, Inc., and further acknowledges that any moneys which have been withheld from Laneguard, Inc., by others on account of claims filed by Aska Structures, Inc., may be paid to Laneguard, Inc.

The undersigned hereby declares that the terms of this settlement are fully understood and voluntarily accepted; that all of the terms of said settlement are incorporated herein and that this release is executed by the undersigned on knowledge of the facts and is not made in reliance upon any statement of any person except as contained herein.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 11th day of April, 1978.

Robert Butts

Robert Butts, Trustee in Bankruptcy
for Aska Structures, Inc.

IT IS SO STIPULATED:

MORRISON, DUNN, MILLER & CARNEY

By: _____
Thomas S. Moore, Of Attorneys
for Plaintiffs

GEARIN, LANDIS & ABBI

By: _____
John C. Mercer, Of Attorneys
for Defendant American States
Insurance Company

McMENAMIN, JOSEPH, HERRELL & PAULSON

By: _____
Stephen B. Herrell, Of Attorneys
for Defendant Robert Butts,
Trustee in Bankruptcy of Aska
Structures, Inc.

McMENAMIN, JOSEPH & HERRELL
ATTORNEYS AT LAW
MORGAN PARK BUILDING
PORTLAND, OREGON 97205
TELEPHONE 226-6600

WILLIAM M MORRISON
JACK M DUNN
JAMES G SMITH
NATHAN L COHEN
F BROCK MILLER
ROBERT M CARNEY
THOMAS E COONEY
RICHARD A VAN HOOMISSEN
THOMAS S MOORE
BOYD J. LONG
ROBERT L. ALLEN
THOMAS M TONGUE
GEORGE J. COUPER, III
CHARLES D. MAITIAN
ROBERT A. WINGER
MICHAEL D. CREW
G. KENNETH SHIROISHI
GILBERT E. PARKER, JR.

MORRISON, DUNN, COHEN, MILLER & CARNEY
ATTORNEYS AT LAW
17TH FLOOR STANDARD PLAZA
PORTLAND, OREGON 97204
TELEPHONE (503) 224-8440

WALTER H. BAILEY (1902-1974)

September 28, 1976

Secretary of State
State of Oregon
Salem, OR 97310

C. W. Head
Commission Service
Department of Transportation
Highway Building
Salem, OR 97310

RE: Oregon State Project No. 8259

Gentlemen:

This office represents Laneguard, Inc., and has been made aware of the fact that ASKA Structures has filed claims concerning Oregon State Project No. 8259. We do want to advise on behalf of Laneguard that the claim is disputed.

Very truly yours,

Thomas S. Moore

TSM:al
cc: Paul Rask
St. Paul Fire & Marine Co.
K. F. Jacobson Co.
Safety Guard Rails, Inc.
Laneguard, Inc.

DEPARTMENT OF TRANSPORTATION

August 2, 1976

STATE HIGHWAY BUILDING • • SALEM, OREGON • • 97310

Mr. Paul J. Rask
Attorney at Law
1022 Georgia-Pacific Building
Portland, OR 97204

Dear Mr. Rask:

This is to acknowledge receipt of your letter of July 27 with attached Notice of Claim of ASKA Structures, Inc., for furnishing materials in the amount of $658 plus interest.

This appears to be in connection with the K. F. Jacobsen & Co., Inc., Contract No. 8259, N. E. Union Avenue-N. E. 82nd Avenue Section in Multnomah County.

We note that you have filed copies with the Secretary of State, St. Paul Fire and Marine Insurance Company, and K. F. Jacobsen & Co., Inc., prime contractor.

Please advise this office when this claim has been satisfied.

Very truly yours,

ORIGINAL SIGNED
C. W. Head
COMMISSION SERVICES

CWH:fkn

cc K. F. Jacobsen & Co., Inc.
2611 S. E. Fourth Avenue
Portland, OR 97202

St. Paul Fire & Marine Ins. Co.
500 N. E. Multnomah
Portland, OR 97232

NOTICE OF CLAIM

To: Secretary of State
State of Oregon
Salem, Oregon

-and-

To: C. W. Head
Commission Service
Oregon State Dept. of Transportation
Highway Building
Salem, Oregon 97310

Re: Oregon State Project
No. 8259

Notice is hereby given that the undersigned ASKA Structures, Inc., 3094 S. E. Tualatin Valley Hwy., Hillsboro, Oregon 97123, has a claim for furnishing materials for sign brackets for sign No. 51 at N. E. Union Avenue - N. E. 82nd Avenue Section, 39th and Halsey East bould per Oregon State Highway drawing E-706, furnished and performed by ASKA Structures, Inc., 3094 S. E. Tualatin Valley Hwy., Hillsboro, Oregon, in the sum of $658.00 plus interest at the rate of 1% per month from April 24, 1976 (30 days after which final payment was due), against the bond taken from K. F. Jacobson & Co., Inc., 2611 S. E. 4th Avenue, Portland, Oregon, and St.Paul Fire & Marine Insurance Company, 500 Lloyd Building, Portland, Oregon. Highway construction - N. E. Union Avenue to N. E. 82nd Avenue.

General Contractor: K.F. Jacobson Company- Inc.
2611 S. E. 4th Avenue
Portland, Oregon 97202

Subcontractor: Safety Guard Rails, Inc.
P. O. Box 317
Hillsboro, Oregon 97123

ASKA STRUCTURES, I:

By: _____
Larry Smith,
President

Receipt Copy

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

May 31, 1978

Mr. Thomas Clifford
Legislative Counsel
S101 Capitol Building
Salem, OR 97310

Dear Mr. Clifford:

Attached is a copy of a permanent administrative rule adopted by the Oregon Transportation Commission on May 30, 1978, concerning an amendment to the rule establishing the Banfield HOV lanes to allow the use of the HOV lanes by taxis. We are also enclosing a copy of the Statement of Need.

A copy of the proposed rule was filed in your office on February 21, 1978. A hearing was held on March 28, 1978.

We are filing a certified copy of this permanent rule with the Secretary of State today.

If you have any questions, please contact Mary Deits, Assistant Attorney General, at 4259.

Very truly yours,

C. W. Head

C. W. Head
COMMISSION SERVICES

kkr

Attachments

RECEIVED
MAY 31 1978
LEGISLATIVE COUNSEL'S OFFICE
320P

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

Project Copy

FILED
MAY 31 1978
NORMA PAULUS
SECRETARY OF STATE

May 31, 1978

Hon. Norma Paulus
Secretary of State
121 State Capitol
Salem, OR 97310

Attention: Administrative Rule Section

Dear Mrs. Paulus:

Attached for filing is a certified copy of a permanent administrative rule concerning an amendment to the rule establishing the Banfield HOV lanes to allow the use of the HOV lanes by taxis.

Please publish in the June 15, 1978, issue of your Administrative Rule Bulletin.

Very truly yours,

ORIGINAL SIGNED
C. W. HEAD C. W. Head

C. W. Head
COMMISSION SERVICES

kkr

Attachment

SED 425a
Oct. 1, 1976
Rev. 11/18/77

CERTIFICATE AND ORDER
for
FILING ADMINISTRATIVE RULES WITH THE SECRETARY OF STATE

I HEREBY CERTIFY that the attached copy is a true, full and correct copy of rule(s) adopted by the Oregon Transportation Commission (Agency) on May 30, 1978 (Date)

to become effective upon filing (Date)

The within matter having come before the Oregon Transportation Commission (Agency) after all procedures having been in the required form and conducted in accordance with applicable statutes and rules and being fully advised in the premises:

NOW THEREFORE, IT IS HEREBY ORDERED THAT the following rule(s) be:
(List Rule Number(s) or Rule Title on Appropriate Lines Below)

Adopted:
(New Rules) Amendment to the rule establishing the Banfield HOV lanes to allow the use of the HOV lanes by Taxis. Temp. [ ] Perm. [X]

Amended:
(Existing Rules) 1 OTC 63

Suspended:
(Temporary Only)

Repealed:
(Existing Rules)

as Administrative Rules of the Oregon Transportation Commission (Agency)

DATED this 31st day of May, 19 78

By: (Authorized Signer)

Title: Manager, Commission Services

Statutory Authority: ORS 403.532, ORS 184.619

Subject Matter: Amendment of a rule establishing the Banfield HOV lanes to allow the use by taxis.

Statement of Need Attached: Yes [X] No [ ]

For Further Information Contact: Mary Deits Phone: 378-4259

RESOLUTION

WHEREAS, ORS 403.532, as amended by Oregon Laws 1975, Ch. 698, provides that the Department of Transportation, with respect to highways or streets under its jurisdiction may designate lanes to be used by buses or high-occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation; and

WHEREAS, the Banfield Freeway, Oregon Highway Number Two is under the jurisdiction of the Department of Transportation; and

WHEREAS, the designation of lanes on the Banfield Freeway for exclusive use by buses and high-occupancy passenger vehicles, including properly licensed or franchised taxicabs, would help to conserve energy by encouraging carpooling and would facilitate public transportation; and

WHEREAS, the Commission has determined that since taxicabs are an essential ingredient of Portland's transportation system, their operation without unnecessary restraint would facilitate public transportation.

NOW, THEREFORE, Resolution Number 256, adopted by the Oregon Transportation Commission on November 25, 1975, is hereby amended to read as follows:

1. The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

a. The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

b. The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

2. For purposes of this rule, "high-occupancy passenger vehicle" means a passenger vehicle carrying three or more passengers, or a properly licensed or franchised taxicab.

3. Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

4. The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

5. The designation of taxicab use in high-occupancy lanes shall take place upon Commission approval.

This resolution shall be entered in the minutes and records of the Oregon Transportation Commission this 30th day of May, 1978 as Misc. Resolution No. 256A.

BEFORE THE OREGON TRANSPORTATION COMMISSION

OF THE STATE OF OREGON

In the matter of the amendment of the rule establishing the Banfield HOV lanes to allow the use of taxicabs with or without a fare in the HOV lanes.	)))))	STATEMENT OF NEED

The Oregon Transportation Commission intends to adopt an amendment to Commission Resolution No. 256 relating to the establishment of the Banfield HOV lanes. This rule shall be adopted under the Administrative Procedures Act as amended and effective November 25, 1977.

(a) Legal authority: ORS 403.532, ORS 184.619

(b) Need for rule: The Department of Transportation has determined that it would be in the public interest and would facilitate public transportation and the general use of the Banfield Freeway to allow the use of properly licensed or franchised taxicabs in the high occupancy vehicle lanes on the Banfield Freeway. This rule amendment changes the definition of "high-occupancy passenger vehicle" to include a properly licensed or franchised taxicab with or without a fare.

(c) Documents relied upon: Commission Resolution No. 256.

ROBERT W. STRAUB
GOVERNOR

Department of Transportation
METROPOLITAN SECTION
5821 N.E. GLISAN, PORTLAND, OREGON 97213

April 12, 1978 Telephone: 238-8231

Margaret E. Ver Hey
Clifford J. Ver Hey
20031 N.E. Halsey, Apt. 2
Troutdale, OR 97060

This will acknowledge receipt of your written statement regarding the amendment to the Oregon Transportation Commission's Resolution #256.

Your statement will be included as part of the public input relative to the formal hearing process.

We appreciate your willingness to take your time to not only attend the hearing but also write us a letter expressing your opinion.

MAX J. KLOTZ
Technical Services Engineer

js

20031 N.E. Halsey, Apt. 2,
Troutdale, Oregon 97060
March 28, 1978

Robert N. Botham, Administrator
Metropolitan Branch
Oregon Department Of Transportation
5821 N.E. Glisan St.
Portland, Oregon 97213

Mr. Botham:

We attended the hearing on March 28 regarding the amendment of the Commission's Resolution Number 256.

We support the stand taken by the Oregon Student Public Interest Group, i.e. in that we are against the adoption of the amendment, for the reasons given by the representative presenting testimony, especially in that we feel use by taxicabs with less than three passengers does not encourage carpooling or energy conservation, and therefore, is not in the public interest. This amendment will in no way cut back on air pollution, vehicle congestion, or petroleum useage, which are the issues that we see positively being dealt with in the establishment of the HOV lanes. We feel that the acceptance of this amendment to permit unlimited taxi use of the HOV lanes will be a step backwards for the future development of Portland.

Therefore, we would encourage the Oregon Transportation Commission not to approve the amendment as it presently reads. We are private citizens who are concerned about the Portland Metro Area's future, and do not see this change as positive.

Sincerely,

Margaret J. Vanderley

Clifford J. Vanderley

KLOTZ

Taxis cite emergencies in case for HOV lanes

A hearing on whether taxicabs should be allowed to use the restricted lanes on the Banfield freeway regardless of number of passengers was short and to the point Tuesday night, with few speaking for the topic and one opposing the proposal offered by the state.

B.L. Cooper, manager of Radio Cab Co., said cabs sometimes act as emergency vehicles for passengers and deliver blood for the Red Cross and handle some Tri-Met service for the elderly and handicapped under a contract.

For these reasons, he said, cabs should be allowed to use the restricted HOV (high occupancy vehicle) lanes, which are limited to buses and cars with three or more riders during peak hours.

Harold Allen, superintendent of Broadway Cab Co., added that cabs often have to serve people going to or from the Portland International Airport or carry materials such as film for television stations and need to save time.

Jan Sokol, speaking for the Oregon Student Public Interest Research Group, opposed the change in the rules for the restricted lanes, which the Oregon Transportation Commission will consider approving.

He said the group feels taxis should be considered "commercial vehicles" by law, not "passenger vehicles." He also said an empty cab does not help conserve fuel.

Sokol said he throught cabs acting as emergency vehicles perhaps could be allowed to use the lanes under the state regulation saying that emergency vehicles on emergency trips can use the lanes.

Linda Scronce, speaking for state Rep. Earl Blumenauer, a candidate for the Multnomah County Commission, said Blumenauer supports the proposed change, and also urges that cars with two passengers be allowed to use the lanes.

Robert Bothman, administrator of the Metrpopolitan Section of the state Department of Transportation, said that so many two-passenger cars use the freeway during the peak hours, that they would fill the restricted lane, thereby taking away any advantage to such lanes.

The lanes are restricted only during peak hours, with the westbound lanes affected in the morning for three hours, and the eastbound lanes affected during three late-afternoon hours.

They were put into use in December 1975, after construction had added a lane to each side of the Banfield.

The change regarding taxis was recommended by a technical advisory committee that works with the state.

THE OREGONIAN, WEDNESDAY, MARCH 29, 1978

KLOT 2

Cabs on the Banfield

Frustrated drivers moving slowly in jammed lanes of the Banfield Expressway during peak traffic hours complain bitterly about what they see as mostly vacant HOV, or high-occupancy vehicle lanes installed in 1975 to encourage greater use of mass transit and car pooling to conserve fuel. Constant evaluation indicates the lanes are struggling to achieve what was expected of them, but a petition by taxi owners to gain exception to the lane restrictions does not seem to add anything to the goals of the project.

The taxi companies say they should be permitted to use the special lanes because cabs sometimes handle emergency runs, such as carrying blood for the Red Cross. Cabs also do some Tri-Met business in transporting the elderly and the handicapped under contract. In addition, cabs often serve persons rushing to the Portland International Airport, according to Harold Allen of Broadway Cab Co.

The lanes now carry approximately 20 percent of the people on the Banfield during rush hours, but in less than 6 percent of the vehicles. That creates the image of sparse use other drivers see in the HOV lanes but speeds the transit of persons permitted to use the lanes. Adding special-interest vehicles would only lessen the attraction to car-poolers and mass transit users.

Figures can be offered to show success of the lanes. For example, in December 1975, only 1.2 percent of the vehicles on the Banfield were three-occupant or more, while a survey of three days last month showed the percentage at 4.9 percent. Still, some 1,000 more cars a day are traveling the Banfield this year than in 1975, and not enough of them are being shared among commuters.

A committee has been studying the program since before its inception, representative of the Highway Division, the state Mass Transit Division, Oregon State Police, Tri-Met, Department of Environmental Quality, City of Portland, Multnomah County and the public. It has suggested changes. For example, the HOV lanes initially were in effect 24 hours a day except weekends. Now they function only during peak traffic hours.

State Highway Division staff members suggest the incentive to qualify for the Banfield HOV lanes is roughly a 10-mile-an-hour speedier trip. Despite the frustrating, stop-and-go, bumper-to-bumper traffic during peak hours morning and evenings in regular lanes, the incentive obviously isn't enough.

But questions about the HOV lanes should deal with the basics, whether the projects are doing or will do what they are supposed to do and whether they are worth the cost and inconvenience — not with special-interest groups. We see no convincing reasons why taxi companies should not share the burdens of energy conservation and easing traffic congestion and air pollution problems. If they have three or more occupants, they are welcome to the benefits of the HOV lanes. That should be the Oregon Transportation Commission's decision when it meets this month.

THE OREGONIAN, TUESDAY, APRIL 4, 1978

KLOTZ

Oregon Journal, April 8, 1978 3

Taxicabs should use HOV lanes

It seems both reasonable and justified to allow taxicabs to use the High Occupancy Vehicle lanes on the freeway. There are, after all, only 250 cabs in the city. Of those cabs, only a few could be expected to be on the freeway at any given time. The possible exception would be the breakup of a large convention, with a number of people requiring fast transport to Portland International Airport at one time. However, it is highly probable that the conventioneers would share the cabs, thus qualifying for the HOV lanes.

Taxicabs are licensed to serve the public by the city of Portland. They would be able to serve the public more efficiently if they were able to use the freeway both with and without passengers to facilitate faster return to service. Of what use is it to keep a taxicab shuffling along with the rush hour traffic, when the desired objective is to complete the trip and pick up another person needing transportation?

In addition to transporting people, taxis are used to make deliveries of blood and other material needing expeditious handling. There is no way a taxi could show on the outside that it is engaged in such a trip, and if it were to use the HOV lanes, it would appear to be "deadheading."

Around 50 people each 24 hours are carried in each taxicab. Many of the customers are persons who have arrived in Portland by plane, train or bus. The taxi is the natural link to put them in the places they need to visit in Portland. Many of the customers are residents of Portland or its suburbs who do not wish to take their own automobiles into the city. Perhaps they ride Tri-Met to the city, visit the dentist to have a couple of teeth extracted and then go home by cab, feeling a little under the weather.

Taxis are the essential link of personal transportation that makes mass transportation workable. They are unmistakable in appearance, so private cars couldn't cheat. There are, in relation to the bulk of freeway users, only a few.

Allowing taxis to use the HOV lanes on the freeway is an efficient use of energy. By being available, they enable people to leave private cars at home. Taxis in the HOV lanes would not be exploiting an unwarranted privilege. They would be a demonstration of common sense.

HEARING STUDY REPORT

Use of the Banfield Freeway
High Occupancy Vehicle Lanes
By Taxicabs

On March 28, 1978 at 7:30 PM, a hearing was held in the ODOT Metropolitan Branch Conference Room located at 5821 N.E. Glisan Street, Portland, Oregon. The subject of the meeting was an amendment of the rule establishing the Banfield HOV lanes that would allow taxicabs with or without a fare use of the lanes.

Eleven people (other than staff and two reporters) attended the hearing. Seven from taxicab companies, one from Representative Blumenauer's office, one representing the Oregon Student Public Interest Research Group (OSPIRG) and a private couple.

Four of those representing taxicab companies testified in favor of the amendment.

Linda Scronce from Earl Blumenauer's office read a statement from the Representative stating that he was for the amendment and also requesting that consideration be given to revising the carpool requirement to two persons.

R.N. Bothman, Metropolitan Administrator, who was serving as the hearing officer, responded that lowering the carpool requirements has been considered several times in the past but recommended against by the Technical Advisory Committee on the grounds that the 25 to 30 percent of the vehicles on the freeway now carrying two or more passengers would be eligible to use the lanes which could fill the restricted lanes sufficiently to eliminate the advantage of the lanes, i.e. faster through trip, little congestion, etc. This would therefore remove the incentive the lanes now offer to carpoolers and bus riders.

The person representing OSPIRG presented testimony objecting to the amendment on the basis of:

1. OSPIRG questions the authority of the OTC to adopt the amendment based upon the definition of taxicabs as High Occupancy use passenger vehicles when ORS defines taxicabs as commercial vehicles.

2. OSPIRG does not see how this amendment will promote energy conservation.

3. OSPIRG does not see how this amendment will facilitate public transportation when taxicabs carry no passengers.

4. OSPIRG questions the legal sufficiency of the given statement of need. It is not clear to them that the amendment is in the "public interest" or that facilitation of the general use of the Banfield Freeway was one of the purposes the legislature sought to promote in enacting ORS 403.532 (now listed as ORS 487.905 1b).

A copy of OSPIRG's testimony was sent to Assistant Attorney General Jack Sollis for review and addressing. Assistant Attorney General Mary Deits' response is summarized as follows:

1. "The fact that a taxicab is defined as a commercial vehicle elsewhere in the statutes does not necessarily exclude it from being considered a High Occupancy vehicle by ODOT if it can be reasonably included within the definitions of high occupancy vehicles."

2 and 3. "If the OTC can make a specific finding that allowing taxicabs to use the High Occupancy vehicle lanes would facilitate public transportation then the change in the rule is proper."

The city of Portland has passed Ordinance No. 144758 which in part states "The Council finds: 1. Taxicabs are an essential ingredient of Portland's transportation mix; 2. Opportunities exist to improve taxicab service to the public. 3. The City has an obligation to ensure that taxicabs operate without unnecessary restraint; ...."

Using this city ordinance as evidence of the importance of taxicabs to Portland's transportation system, a paragraph has been added to the amended OTC Resolution stating that their (the taxicabs) operation without unnecessary restraint would facilitate public transportation.

4. The law requires that the Statement of Need include:

"(a) The legal authority of any jurisdiciton relied upon and bearing upon the promulgation of the rule;

(b) A statement of the need for the rule and a statement of how the rule is intended to meet the need; and

(c) The citation of applicable portions of the principle documents, reports or studied prepared by or relied upon by the agency in considering the need for and in preparing the rule." ORS 183.335

To my knowledge, there have been no legal determinations as to exactly how specific the statement of need should be. However, in my opinion, the statement of need in this case satisfies the requirements of the law. The purpose of this law is to inform the public of the reason for the rule change by the agency.

Two days after the hearing, the Metro office received a letter from Mr. and Mrs. Ver Hey that had attended the hearing but had not testified. The letter expressed Mr. and Mrs. Ver Hey's objection to the amendment because of the reasons given by the OSPIRG representative and "because allowing taxicabs in the HOV Lane would not encourage carpooling or energy conservation or will in no way cut back on air pollution, vehicle congestion or petroleum usage, which are the issues that we see positively being dealt with in the establishment of the HOV lanes."

The response to this is essentially the same as to the OSPIRG testimony.

After considering the hearing testimony, the Technical Advisory Committee's recommendation, the City of Portland's finding on the importance of taxicabs in the transportation of the public, it is recommended that the Oregon Transportation Commission approve the proposed resolution amending previously adopted Resolution #256.

Jim Allen

ORDINANCE NO. 144758

An Ordinance authorizing the City of Portland to enter into an agreement for professional consultant services to complete a Study of Taxicab Regulations for the Bureau of Planning, transferring appropriations, authorizing expenditures, and declaring an emergency.

The City of Portland ordains:

Section 1. The Council finds:

1. Taxicabs are an essential ingredient of Portland's transportation mix;

2. Opportunities exist to improve taxicab service to the public;

3. The City has an obligation to ensure that taxicabs operate without unnecessary restraint:

4. Taxicab operation must, in the interest of public service, comply with City Code provisions;

5. The adequacy of existing City Code provisions is not known;

6. The level of taxicab compliance with existing City Code regulatory provision is currently unknown;

7. The Bureau of Planning should supervise a study of taxicab regulations in conjunction with the City Attorney;

8. The City has determined that a consultant should be hired to perform this Study, and the consultant herein named has been determined uniquely capable of completing and delivering this Study to the Bureau of Planning within the timeframe established by this Ordinance.

NOW, THEREFORE, the Council directs:

a. The Mayor and Auditor are hereby authorized to enter into an agreement for professional services with James J. Allen, consultant, in the amount of $11,375, and to draw and deliver warrants pursuant thereto for the completion of this Study;

DEPARTMENT OF JUSTICE

Memorandum

MA PDM PDE TSE SPC

DATE: April 7, 1978

METRO

APR 10 1978

TO: Max Klotz
Technical Services Engineer

FROM: Mary Deits
Assistant Attorney General

SUBJECT: Banfield HOV Lanes

AM PPS FILE TA

You have asked that the Legal Section review the comments of the Oregon Student Public Research Group (OSPIRG) at the hearing concerning the amendment of the HOV lane rule to allow use by taxicabs.

First, as suggested by the representative of OSPIRG, the department's authority is limited to designating lanes to be used exclusively by "buses or high occupancy passenger vehicles." However, the fact that a taxicab is defined as a commercial vehicle elsewhere in the statutes does not necessarily exclude it from being considered a high occupancy vehicle by the Department of Transportation, if it can be reasonably included within the definition of high occupancy vehicles.

The representative of OSPIRG also indicated that OSPIRG does not believe that the amendment to the HOV lane rule will facilitate public transportation or promote energy conservation. As I indicated to you in my memo of January 25, 1978, I believe that it will be necessary for the Commission to make a specific finding that allowing taxicabs to use the high occupancy vehicle lane would facilitate public transportation. If the department can reasonably conclude that allowing taxicabs to use the HOV lanes will facilitate public transportation, then the change in the rule is proper.

The OSPIRG representative also questions the legal sufficiency of the statement of need. It is true that the statement of need is written in rather general terms. The law requires that the statement of need include:

> "(a) The legal authority of any jurisdiction relied upon and bearing upon the promulgation of the rule;
>
> (b) A statement of the need for the rule and a statement of how the rule is intended to meet the need; and
>
> (c) The citation of applicable portions of the principle documents, reports or studies prepared by or relied upon by the agency in considering the need for and in preparing the rule." ORS 183.335

To my knowledge, there have been no legal determinations as to exactly how specific the statement of need should be. However, in my opinion, the statement of need in this case satisfies the requirements of the law. The purpose of this law is to inform the public of the reason for the rule change by the agency.

nc

Jim Allen

ORDINANCE NO. 144758

An Ordinance authorizing the City of Portland to enter into an agreement for professional consultant services to complete a Study of Taxicab Regulations for the Bureau of Planning, transferring appropriations, authorizing expenditures, and declaring an emergency.

The City of Portland ordains:

Section 1. The Council finds:

1. Taxicabs are an essential ingredient of Portland's transportation mix;

2. Opportunities exist to improve taxicab service to the public;

3. The City has an obligation to ensure that taxicabs operate without unnecessary restraint;

4. Taxicab operation must, in the interest of public service, comply with City Code provisions;

5. The adequacy of existing City Code provisions is not known;

6. The level of taxicab compliance with existing City Code regulatory provision is currently unknown;

7. The Bureau of Planning should supervise a study of taxicab regulations in conjunction with the City Attorney;

8. The City has determined that a consultant should be hired to perform this Study, and the consultant herein named has been determined uniquely capable of completing and delivering this Study to the Bureau of Planning within the timeframe established by this Ordinance.

NOW, THEREFORE, the Council directs:

a. The Mayor and Auditor are hereby authorized to enter into an agreement for professional services with James J. Allen, consultant, in the amount of $11,375, and to draw and deliver warrants pursuant thereto for the completion of this Study;

ORDINANCE No.

b. The consultant will undertake a review of City taxicab operations and City Code provisions;

c. The Study will recommend what, if any, provisions of the City Code should be modified, or other activities that may be necessary to increase the service the public receives from taxicabs;

d. The Study will include public debate and discussion on research findings and proposed recommendations;

e. The final Study recommendations will be submitted for City Council review no later than June 30, 1977;

f. The 1977-1978 City Budget is amended by transferring appropriations as follows:

FROM

General Operating Contingency	$ 375.00
General Operating Contingency (Title II)	14,887.00
Total	$15,262.00

TO

Bureau of Planning, Object	120	$ 2,042.00
	170	613.00
	210	11,375.00
	230	107.00
	310	300.00
	420	200.00
	520	250.00
	640	375.00
Total		$15,262.00

Section 2. The Council declares that an emergency exists; so that there may be no delay in addressing the appropriate regulation of taxicabs in Portland, this Ordinance shall be in force and effect from and after its passage by the Council.

Passed by the Council, 11/23/77

Mayor Goldschmidt
November 10, 1977
R.S. Hofland/th

Mayor of the City of Portland

Attest:

Auditor of the City of Portland

In my opinion, this statement does inform the public of the department's reason for making the rule change. If the statement of need were ever challenged, the worst possible result would be that the rule would be declared invalid and it would be necessary for the department to readopt the rule.

MD:sjb

cc: Walt Barrie
Jack Sollis

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: B. L. Cooper
(Please Print)

Address: 3003 S.E 58th

City: Portland Zip Code: 97209

Do you wish to make a statement: (Please check one) ☑ Yes ☐ No

Organization Represented: Radio Cab. Co.

Reverse side comments will be made a part of hearing transcript.

---

(2)

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Lowell Allen
(Please Print)

Address: 7807 SE Holgate

City: Portland Zip Code: 97206

Do you wish to make a statement: (Please check one) ☑ Yes ☐ No

Organization Represented: Broadway Cab Co

Reverse side comments will be made a part of hearing transcript.

---

(4)

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Ruby Allen
(Please Print)

Address: 7807 SE Holgate

City: Portland Zip Code: 97206

Do you wish to make a statement: (Please check one) ☐ Yes ☒ No

Organization Represented: Broadway Cab Co

Reverse side comments will be made a part of hearing transcript.

7:45

Emergency transit

7:47

Supplement

Airport Services

(5) (Yes 4 3)

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: HAROLD. COYNER. (Please Print)

Address: 6555 NE. 82ND.

City: PORT. ORE. Zip Code: _____

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: BROADWAY. CAB.

Reverse side comments will be made a part of hearing transcript.

(6)

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: LAWRENCE M. JACK (Please Print)

Address: 122 NE 72

City: PORTLAND Zip Code: _____

Do you wish to make a statement: (Please check one) ☐ Yes ☑ No

Organization Represented: _____

Reverse side comments will be made a part of hearing transcript.

(7)

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: ~~representing Rep Earl Blumenauer~~ Linda Scrance (Please Print)

Address: P.O. Box 1316

City: Portland Zip Code: 97207

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: Rep. Earl Blumenauer

Reverse side comments will be made a part of hearing transcript.

7:49

TAXIS

But Also Passenger Autos

(8)

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: DWIGHT CASEBERR
(Please Print)

Address: 234 NW 1

City: PORTLAND Zip Code: 97209

Do you wish to make a statement: (Please check one) ☒ Yes ☐ No

Organization Represented: BROADWAY CAB CO

Reverse side comments will be made a part of hearing transcript.

(9)

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: Roger A. KINCAID
(Please Print)

Address: 1845 SE ANKENY

City: Ptld, Ore Zip Code: 97214

Do you wish to make a statement: (Please check one) ☐ Yes ☒ No

Organization Represented: Broadway Cab

Reverse side comments will be made a part of hearing transcript.

(10)

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

Name: JAN D. SOKOL
(Please Print)

Address: THE PYTHIAN BLDG, 2nd FLOOR, 918 SW Yamhill

City: Portland Zip Code: 97205

Do you wish to make a statement: (Please check one) ☑ Yes ☐ No

Organization Represented: Oregon Student Public Interest Research Group

Reverse side comments will be made a part of hearing transcript.

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

(11)

Name: Clifford J. Vee Hey
(Please Print)

Address: 20031 N.E. Halsey Rt #2

City: Troutdale OR Zip Code: 97060

Do you wish to make a statement: (Please check one) ☐ Yes ☒ No

Organization Represented: _____

Reverse side comments will be made a part of hearing transcript.

OREGON STATE HIGHWAY DIVISION
PUBLIC HEARING

(12)

Name: _____
(Please Print)

Address: _____

City: _____ Zip Code: _____

Do you wish to make a statement: (Please check one) ☐ Yes ☐ No

Organization Represented: _____

Reverse side comments will be made a part of hearing transcript.

7:30 Good Evening -

My name is Robert N. Bothman. I am the Administrator of the Metropolitan Branch of the Oregon Department of Transportation. I have been delegated the authority to hold a public hearing on a proposed rule change that would allow taxicabs use of the Banfield HOV lanes regardless of the number of occupants.

This hearing is being held in accordance with the Administrative Procedures Act that requires a hearing before the establishment or amendment of a rule.

I will now ask Max Klotz to read the Notice, the Statement of Need, and the proposed amended Resolution into the minutes of this hearing. Copies of these documents are available from Bill McConnel at the back of the room if you need them.

- Max reads the documents -

Bothman - We will now receive testimony on the proposed amendment.

Upon entering you were given one of these attendance cards to fill in--on these cards is a place to mark whether or not you wish to make a statement. I will call upon those that marked on their cards that they wished to make a statement in numerical order.

If you have not handed in your card yet please raise your hand and we will collect them.

Written statements may also be handed in if you prefer to do that instead of making your statement orally.

As your name is called please come forward, be seated in the chair opposite me and give your name and address for the record before making your statement.

(- Max and Bill collect the cards, separate those wishing to make a statement and arrange them in numerical order, hand them to Bob -)

- Call the names -

That is all the cards I have that have been marked. Is there anyone else here that wishes to make a statement either oral or written?

Thank you ladies and gentlemen for coming tonight. I am now closing the hearing.

MJK:ja
ODOT
3/27/78

BEFORE THE OREGON TRANSPORTATION
COMMISSION OF THE STATE OF OREGON

In the matter of the amendment of the rule establishing the Banfield HOV lanes to allow the use of taxicabs with or without a fare in the HOV lanes.	)))))	NOTICE OF PROPOSED AMENDMENT OF COMMISSION RESOLUTION NUMBER 256

1. On Tuesday, March 28, at 7:30 p.m., a public hearing will be held in the the Department of Transportation's conference room, 5821 N.E. Glisan St., Portland, to consider the adoption of an amendment to the rule establishing the Banfield HOV lanes to allow the use of the Banfield HOV lanes by taxis properly franchised or licensed.

2. The issue to be considered at the hearing is whether the Banfield HOV lanes should be used by properly licensed or franchised taxis.

3. Interested persons may present their data, views, or arguments either orally or in writing at the hearing.

4. A copy of the proposed rule amendment may be obtained by writing to Mr. Cecil Head, 121 Transportation Building, Salem, Oregon 97310.

5. A statement of the need for the intended action has been prepared and is available for public review during regular business hours, 8:00 a.m. to 5:00 p.m. at Rm. 121 Transportation Building, Center and Summer Streets, Salem, Oregon 97310 or 5821 N.E. Glisan St., Portland, Oregon.

6. The Director of the Department of Transportation has designated Robert N. Bothman, Metropolitan Administrator, to preside over and conduct the hearing.

Dated February 21, 1978.

Cecil Head
Manager, Commission Services

BEFORE THE OREGON TRANSPORTATION COMMISSION

OF THE STATE OF OREGON

In the matter of the amendment of the rule establishing the Banfield HOV lanes to allow the use of taxicabs with or without a fare in the HOV lanes.	)))))	STATEMENT OF NEED

The Oregon Transportation Commission intends to adopt an amendment to Commission Resolution No. 256 relating to the establishment of the Banfield HOV lanes. This rule shall be adopted under the Administrative Procedures Act as amended and effective November 25, 1977.

(a) Legal authority: ORS 403.532, ORS 184.619

(b) Need for rule: The Department of Transportation has determined that it would be in the public interest and would facilitate public transportation and the general use of the Banfield Freeway to allow the use of properly licensed or franchised taxicabs in the high occupancy vehicle lanes on the Banfield Freeway. This rule amendment changes the definition of "high-occupancy passenger vehicle" to include a properly licensed or franchised taxicab with or without a fare.

(c) Documents relied upon: Commission Resolution No. 256.

RESOLUTION

WHEREAS, ORS 403.532, as amended by Oregon Laws 1975, Ch. 698, provides that the Department of Transportation, with respect to highway or streets under its jurisdiction may designate lanes to be used by buses or high-occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation; and

WHEREAS, the Banfield Freeway, Oregon Highway Number Two is under the jurisdiction of the Department of Transportation; and

WHEREAS, the designation of lanes on the Banfield Freeway for exclusive use by buses and high-occupancy passenger vehicles, including properly licensed or franchised taxicabs, would help to conserve energy by encouraging carpooling and would facilitate public transportation.

NOW,THEREFORE, Resolution Number 256, adopted by the Oregon Transportation Commission on November 25, 1975, is hereby amended to read as follows:

1. The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

a. The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

b. The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

2. For purposes of this rule, "high-occupancy passenger vehicle" means a passenger vehicle carrying three or more passengers, or a properly licensed or franchised taxicab.

3. Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

4. The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

5. The designation of taxicab use in high-occupancy lanes shall take place upon Commission approval.

This resolution shall be entered in the minutes and records of the Oregon Transportation Commission this _____ day of _____, 1978 as Resolution No._____.

ADMINISTRATIVE ORDER

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

ORDER NUMBER
39

DATE
February 23, 1978

SUBJECT: Delegation of Authority to Prepare Amendment to Commission Resolution Number 256 to Allow Taxis to Use the Banfield HOV Lane With or Without Fare.

I, Robert A. Burco, do hereby designate Robert N. Bothman, Manager, Metropolitan Branch, to prepare a proposed amendment to Commission Resolution Number 256, allowing the use of taxis with or without a fare on the Banfield HOV lane, publish notice of hearing on the proposed rule amendment, conduct a hearing to be held March 28, 1978, on the proposed rule amendment, and prepare a written summary of statements, and exhibits, and other data received, together with a recommendation for action and present this material to the Commission.

Robert A. Burco

Robert A. Burco
Director of Transportation

DISTRIBUTION:
Assistant Director for Operations
Assistant Director for Administration
Manager, Metropolitan Branch
Manager, Commission Services
Chief Counsel
General Files

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

February 21, 1978

Mr. Thomas Clifford
Legislative Counsel
S101 Capitol Building
Salem, OR 97310

Dear Mr. Clifford:

Attached is a copy of a proposed rule which is being considered for adoption by the Oregon Transportation Commission as a permanent rule. The rule pertains to amendment to the rule establishing the Banfield HOV lanes to allow the use by taxicabs.

The rule is adopted pursuant to ORS 403.532 and ORS 184.619. A hearing will be held on the rule on March 28. Notice of the hearing will be published in the Secretary of State's Bulletin on March 1, 1978. Attached is a copy of the Notice of Hearing.

If there are any questions concerning this rule, please contact Mary Deits, Assistant Attorney General, at 4259.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

Atts.

RECEIVED
FEB 21 1978
LEGISLATIVE COUNSEL'S OFFICE

1030A

RECEIPT COPY

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

TRANSPORTATION BUILDING, SALEM, OREGON 97310

February 21, 1978

FILED
FEB 21 1978
NORMA PAULUS
SECRETARY OF STATE
approx 10:30 A.M.

Hon. Norma Paulus
Secretary of State
121 State Capitol
Salem, OR 97310

Attention: Administrative Rule Section

Dear Mrs. Paulus:

Please publish the attached Notice of hearing in your Administrative Rule Bulletin on March 1, 1978, concerning the amendment of a rule establishing the Banfield HOV lanes to allow the use of taxicabs.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

Att.

#82591 Item 5(2) Report on Banfield HOV Lane Final Report

5/30/78 Comm. meeting excerpt - Banfield HOV lane report

MR. KLABOE: I have Mr. Bothman here who would like to give you a short update report on studies conducted on the HOV Lanes on the Banfield.

MR. BOTHMAN: Gentlemen, I'd like to call to your attention to a final report on the Banfield HOV lane project. It's in that stack of reports before you. When we initiated the project back in 1975, we also applied to the Federal Highway Administration for a funding grant to provide for monitoring of the project that covered the first eighteen months starting in January of 1976 and running through July of 1977. The purpose was to monitor air quality and a series of other person and auto related features to the project. Max Klotz, is here who has served as the project manager and would like to run through some of those. I ~~would like to~~ might add that the ~~intial~~ initial effort was $150,000 monitoring project, 100% federally funded which has now been extended with another grant of $50,000 to monitor the project through July of this year. Most of the information is being plugged into the Banfield/Transway Project it so really we're getting a pretty double duty out of this information, particularly the air monitoring is going into the Banfield project in providing the information to move those transit alternatives forward. The first booklet is a report itself. The second one is an appendix with a lot of the statistical information. I think right in the first part of the first book is a pretty good summary in a few pages but Max will run through those now.

MAX KLOTZ: tape change - Traffic flows, people getting off and on the freeway and various ramps. And what I'd like to do now is just go through briefly about a half a dozen of the more significant ones just so you can be aware of what is happening on the freeway. When we implemented the project the first part of '76', our traffic was running about 97,000 vehicles per day - this is the average week day traffic. This

cycles annually peaking a lot in the summer time. Right now ~~there~~ we are approximately 15,000 vehicles a day higher than when this project was implemented, so our traffic volumes are continuing to rise. ~~Their~~ They are rising at about the same rate as the other freeways entering the city.

GLENN JACKSON: What's the total A.D.T. now?

MR. KLOTZ: A.D.T. now is running about 113,000 I believe. We also monitor the peak hour A.D.T. in other words how many vehicles are travelling over the freeway from 7-8 a.m. and from 4:30-5:30 p.m. Now you see this is not rising like the A.D.T. The reason for that is the peak hours fall. It's becoming very erratic as the freeway system breaks down then you get fewer cars able to travel during that hour. Now this is only for the one hour period - westbound in the morning and eastbound in the evening. We constantly check the number of vehicles travelling during the peak traffic periods - three hour period - in order to see if the HOV lanes are in operation during the proper time. This is the a.m. the HOV lane implementation is at 6:30 in the morning. See the traffic counts are rising very high. These numbers represent the number of vehicles per 15 minutes travelling the freeway. We have a peak at approximately 6:45 and then it is very broad and a slow decline from about 7:45 to about 10:00. Our three hour period covers 6:30 to 9:30 now. Now as the traffic volumes increase these peaks are spreading out. About a year ago we looked at this, this peak was over here. About a half hour this one was over this way but it's ~~more is~~ slowly spreading.

MR. KLABOE: Does that mean that the absolute peak ~~max~~ is at 6:45 is the absolute, ~~is~~ that's the most?

MR. KLOTZ: That's the highest count that we've got on this three day count that we made April 25, 26, 27. The evening peak is broader and it does not start with such a rapid rate. There's quite a high rate of traffic along all afternoon, you can see here it comes in. Then it

starts falling off at about 5:30 - a slow decline. Our HOV lane restriction ends at 6:30 now. I might explain I've got these on the clear plastic because we use this to try to compare various happenings on the freeway to see if there is any correlation between traffic flow, speeds or accident rates or whatever, so we can overlay these one on the other to get a rapid comparison.

The Banfield Freeway accident rate - contractors were in the construction was going on during this period, the rate was quite high. This we found was due to the rubber necking primarily and also due to ramp configurations on three different ramps. We moved the lane over next to the curb. We found we cut the exceleration ~~of the~~ lane off shorter than we had anticipated, so we had to go back in and rebuild those - that's what this peak was when we were rebuilding those. Now our accident rate now has declined and is now less than one accident per million miles which compares very favorably, slightly less than the other freeways entering Portland - Sunset and I-5.

The peak hour average speed - this is an average of the morning and evening peak hour traffic. The blue line represents the traffic in the non HOV lanes, the center and right hand lanes. We see it very erratic just like our traffic flows are during the peak hour because this system is constantly breaking down. The red line is the traffic speed in the HOV lane. It runs five to 10 ~~m.p.h.~~ miles an hour faster than that in the other lanes. Normally there's no restriction in the HOV lane there's not enough traffic out there to slow it down but we find that even though there's no restriction, people in that lane do not want to go much more than about 10 m.p.h. faster than the people in the adjoining lanes. I might point out we have a period here where there's no information available. This is because that final report you had before you covered a contract period with the Federal Highway Administration to help pay for the cost of monitoring

cut off at this point, so we did no monitoring until last fall when the Federal Highway Administration extended the contract, then we picked up the monitoring and continued. The report you have before you stops at this point. This has not been added.

This is the % of carpools or vehicles with three or more occupants travelling the freeway. The Banfield is shown in blue. We back this up to June of 75 which is six months prior to the opening of the HOV lanes. The HOV lanes were opened here. Right at that point we've got a very significant jump in the number carpools. There's also quite a campaign to educate everyone in what we're trying to do and form more carpools. There's quite a jump there. Now since that time it's had its ups and downs but it's running just about the same percentage - from 5 to 6% of the vehicles on the freeway are carpools. This is a percentage, so as you saw the traffic counts are rising and this also is rising but it's still remaining about the same percentage. Now for a comparison we also monitor periodicly the carpools on I-5 which is shown in the green line and on the Sunset which is shown on the red line that we wanted to see if the increase or change on the Banfield - what's happening throughout the rest of the area. We found that these two freeways, I-5 and Sunset are remaining at about the same ½ to 2% as they were, as the Banfield was before we opened.

GLEN JACKSON; When you say carpool you mean any vehicle that has three passengers?

MR. KLOTZ: Yes

Brix : That includes buses.

MR. KLOTZ: No. This 5% by the way is carrying about 20% of the traffic - no 20% of the people, excuse me.

This is peak hour persons per lane, it's the average of the eastbound and the westbound. The center lane of the freeway is carrying about

2,500 people during the peak hour. The right hand lane is carrying a little over 2,000. The HOV lane is carrying about 1200 to 1300. Now this is 5% of the vehicles, there's 95% of the vehicles here. Now the carpools have not arisen significantly since the initial opening of the lanes. The Banfield flyer that the buses that Tri Met ~~have tried to come out~~ to put on to specifically run HOV lanes, the ridership has risen. It's risen about 70% since the lanes were opened, this is compared to about 7.7% rise in all the other bus lines in that area.

MR. WALSH: What are they carrying now a day?

MR. KLOTZ: I don't remember just off hand. I'm sorry I'll get it for you.

We're primarily concentrating on getting better use out of that lane convincing people to either ride the bus or form more carpools but so far it's been very slow as far as any changes. Tri Met ~~Tri-met~~ through carpool has done a lot of work and as ~~there~~'s part of the handouts you have before you I think it was under the final report. There is a two page listing of the efforts that have been put into increase in the use of the HOV lane.

GLENN JACKSON: On a cost benefit basis comparing each of the three lanes or comparing the HOV lane to the other, the 2 open lanes which shows the best return on the investment in terms of people handled?

MR. KLOTZ: In terms of people handled, I think the HOV lane has the potential for a greater return but right now the other lanes carrying 80% of the traffic would be 40% roughly in each lane as opposed to 20% of the people in the HOV lane. You'd have to say that there are more people being carried in the other lanes.

GLENN JACKSON: Plus the trucks + commercial transit? Now I think the big argument here has always been the minimum use of the capital investment in concrete and asphalt. You said that trend has flattened out pretty well just looking

at the chart.

MR. KLOTZ: Yes, it's rising slowly but very slowly.

PETER ~~BRICKS~~ Brix: What per cent of the bus trips are in the HOV lane versus the other two?

MR. KLOTZ: I'm guessing, but I would guess about 70%, 60% - 70%.

GLENN JACKSON: You mean in the HOV lane versus the other.

MR. KLOTZ: 70% of the buses on the Banfield are in the HOV lane and that's merely an estimation.

MR. ~~BRICKS~~ Brix: In the three hour periods.

MR. KLOTZ: Yes.

MR. ~~BRICKS~~ Brix: And then your passenger figures for the non HOV lanes. Does that include passengers on buses?

MR. KLOTZ: That are not in the HOV lanes. The figures for the people in the HOV lanes does include the people in those buses that are in the HOV lane

MR. COLEMAN: The other two lanes are carrying considerable more traffic because of the ~~condition~~ additional of traffic on the Banfield.

GLEN JACKSON: Thank you.

MR. BOTHMAN: All the cards that I think Max showed here are in that report if you want to take it home and digest it a little bit. I think there's actually some other graphs in there too of occupancy rates even by lanes and speeds by lanes. This is kind of the summary.

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

STATE HIGHWAY BUILDING, SALEM, OREGON 97310

AGENDA
MAY 30 1978
5a-1 & 2

DATE: May 10, 1978

TO: Oregon Transportation Commission

FROM: F. B. Klaboe, Assistant
Director for Operations

SUBJECT: Banfield Freeway HOV Lanes

Two items concerning the Banfield Freeway HOV lanes will be on the agenda for the May 30 meeting:

1. Taxis in the HOV Lanes

As per your instructions, a public hearing was held on March 28 on the proposed rule change allowing taxis to use the Banfield High Occupancy Vehicle Lane regardless of whether or not they are carrying a fare.

A copy of the Hearing Study Report is attached. The tape of the hearing is filed in Commission Services Manager Cecil Head's office.

Your approval on the rule change is requested.

2. Banfield HOV Lane Final Report for FHWA

As a commitment to FHWA, we have prepared a report describing the effect of the HOV lanes on traffic flow, safety, carpooling, bus ridership, air quality, etc., in the Banfield Corridor.

This report has been completed and the original transmitted to FHWA for printing.

Copies of the report will be placed before you at the meeting and Metropolitan Administrator R. N. Bothman will present a summary of the report for your information. No action is required.

Enclosures

bc: C. W. Head
R. N. Bothman
H. S. Coulter
Denny Moore
Robert A. Burco
George Bell
E. S. Hunter

NOTED
C. W. HEAD

M.1K·1a srh

#9259

9

STATE OF OREGON

INTEROFFICE MEMO

TO: MAX J. KLOTZ
Technical Services Engineer

DATE: April 18, 1978

FROM: R.N. BOTHMAN
Metropolitan Administrator

SUBJECT: Banfield HOV Lane

Because of the delay in taking the Banfield HOV Lane final report and taxi resolution to the Commission in April, I would like to submit to them a summary evaluation of the report and an update of operations of the HOV Lanes since July.

Included I would like an evaluation relative to those objectives set forth in the Fall of 1977 for the HOV Lanes as well as an evaluation of the several incentive programs established in September, including the downtown parking, the park-and-ride stations in Gresham, and reorientation of lines, etc. I would like a summary of how much of that work was actually accomplished and what the incentive programs have meant in terms of the HOV Lanes. How much parking is being used downtown by carpoolers, even if city wide, but prefereably with a number or estimate of Banfield users and a reorientation of bus riders by Tri-Met that has resulted.

I would like the report to include one other area that is a re-evaluation of other incentives which might be instigated to improve the efficiency of the Banfield operation. I would like these to include, but not be limited to: 1) utilization of two occupant carpools, 2) utilization of two-hour peak periods, 3) a trial ramp metering program to re-establish a D to E level of operation on the regular auto lanes, 4) redirection of additional bus lines to the HOV Lane, 5) implimentation of additional park-and-ride lots connected to the Banfield Flyers, 6) utilization of all six lanes by all autos, etc.

The above evaluation should include input directly from Tri-Met (perhaps Ron Higbee could assist, and Tom Schwab also).

I would like this report ready to go to the Commission in about 30 days or about the end of May.

js

cc: F.B. Klaboe
D.R. Adams

NOTED
F. B. KLABOE

RECEIVED
DOT OPERATIONS
APR 20 '78
REFER TO
FOR

Info	Invest	R/D	D/R	Sign	Act	File

81-125-1387

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM 97310

ROBERT W. STRAUB
GOVERNOR

April 6, 1978

Mr. & Mrs. R.M. Schulden
131 Maple Boulevard
Troutdale, Oregon 97060

Dear Mr. & Mrs. Schulden:

The H.O.V. lanes were created by eliminating the freeway shoulders and slightly narrowing the other lanes. So the Banfield does not have fewer regular car lanes now than it did before.

The latest evaluation of the H.O.V. shows that although traffic on the Banfield has increased almost 10 percent since the lanes were started in 1975, speeds have remained the same. Removing the lanes would throw the more than 800 people who are in express buses and carpools during rush hours into the regular traffic.

One big problem with the H.O.V. lanes is that they make people who can't use them mad. Removing the lanes might make some people feel better, but traffic wouldn't move any faster and, in fact, would probably get worse.

Sincerely,

Governor

RWS:cb

bcc: Dept. of Transportation

4-10-78
Pittman

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APR 10 '78
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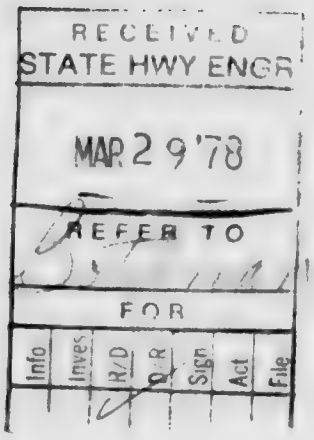
131 Maple Blvd.
Troutdale, OR

Governor Robert Straub:

(This won't help mass transit get our vote.)
May I ask your office just who's wild idea it was to install a special HOV-Lane for the tri-met traffic on the Banfield freeway? I called tri-met and they inform me that they only have approximately 2 buses using this lane during the hours the police enforce traffic and issue fines of $27.00 for violation whether there is traffic in this lane or 0 traffic. This is highway robbery and we pay for this lane as taxpayers. If this lane isn't corrected by your office before election, McCall gets our vote and as I see it, you will need all our help. Mr. and Mrs. R. M. Schulden

AM PPS



8259 NE Union Ave-NE 82nd Ave Sec 197
Columbia River Hwy. in Portland
(Grad.,pav,bar.,sign & lll.) #9

BANFIELD
HIGH OCCUPANCY
VEHICLE LANES

FINAL REPORT

MARCH, 1978

OREGON DEPARTMENT OF TRANSPORTATION

FORWARD

This report provides a detailed evaluation of the bus and carpool lanes installed on the Banfield Freeway in Portland, Oregon. The report will be of particular interest to planners and engineers who may be involved in planning, designing, and operating priority lanes for high occupancy vehicles.

The Banfield Freeway was modified from a four-lane divided facility to a six-lane divided freeway with the median lane reserved for carpools and buses during peak hours. The shoulders were removed to allow the extra land and the lane widths for regular traffic were reduced to 11 feet (3.3 meters). Emergency pullout bays were constructed at about 2,000 feet (600 meters) intervals.

The evaluation results indicate that during the peak hours the number of three or more person carpools increased from 106 to 518, bus ridership increased from 300 to 633 persons per day, the violation rate was measured to be about 12 percent, and the accident rate is about the same as it was prior to tne restricted lane operation.

Sufficient copies of this report are being distributed by FHWA to provide two copies to each regional office, two copies to each division office, and two copies to each State Highway agency. The State and division office copies are being sent directly to each division office.

CHARLES F. SCHEFFEY
Director, Office of Research

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16. Abstract

This report evaluates the operation of the High Occupancy Vehicle (HOV) lanes on the Banfield Freeway in the City of Portland, Multnomah County, Oregon.

This report covers the HOV lanes impact on traffic flow, safety, modal shift, air quality, fuel savings and public attitude.

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1.0 OBJECTIVES AND FINDINGS

A significant problem facing urban transportation planning in the mid-1970's focuses on the need to provide relief for peak hour congestion. This problem is characterized by a high volume to capacity ratio which exists for a relatively short period of time; usually two to three hours in both morning and evening commuter traffic periods. These peak conditions frequently result in unacceptably low levels of service and undesirable increases in travel time. Such concentrated congestion, while relatively short-lived, creates externalities in the form of increased air pollution, greater fuel consumption, and heightened psychological stress for the driver. The problem was responded to in the past through added lanes on existing facilities, or enlarging the traffic network by constructing new roadways. For a variety of reasons involving inordinate costs, primary and secondary land use impacts, and other environmental concerns, this response is not always as acceptable, particularly when the additional capacity is required for only a small portion of the operational day. An alternative approach to this problem is to use the existing facilities in a more efficient manner. The High Occupancy Vehicle (HOV) lane is an experimental effort to do just that.

The Banfield Freeway HOV lanes in Portland, Oregon became operational on 15 December 1975 and remain in operation today. This report will evaluate the effectiveness of the HOV lane project from its inception to 1 July 1977.

1.1 Objectives of the HOV Lane Project

Traffic congestion on the Banfield Freeway had reached critical levels requiring immediate improvement. A low cost interim project was needed to allow time for a major corridor study to be accomplished and long term transportation solutions to be identified. With this in mind, the following objectives were developed:

a. Assist in implementing the State of Oregon Clean Air Act Implementation Plan, Portland Transportation Control Strategy, by increasing the person per vehicle ratio on the Banfield:

b. Provide for carpooling and bus-use incentives in the corridor through use of HOV lanes.

c. Reduce traffic congestion on the Banfield Freeway and adjacent arterial streets.

d. Provide a safe transportation facility by improving the roadway surface.

e. Provide a time and fuel savings to the traveler.

f. Provide an interim, low-cost improvement to the Banfield as an expedient, until such time as a major revision can be accomplished.

1.2 Summary of Findings

The study evaluates an 18½ month period of HOV lane operation, from the opening of the preferential lanes on 15 December 1975 to June 1977. In summary, the findings show the following:

a. Traffic characteristics (Refer to Section 3.0)

(1) The 1975 average weekday traffic (AWD) on the Banfield was 105,800. During the previous ten year period, the AWD showed an increase of approximately two percent per year. Under normal growth patterns without the HOV lanes, traffic would be expected to have increased to 110,000 AWD by 1977.

(2) The AWD for April-June 1977 on the Banfield is 112,000 vehicles or two percent over the average projected without the HOV lanes. This increase appears to be the result of traffic being attracted from adjacent east-west arterial streets.

(3) The AWD on the three main east-west arterial streets (Sandy Blvd., Burnside St. and Broadway St.) in the Banfield corridor has decreased by three percent.

(4) The average AM peak hour traffic on the Banfield has increased by 125 vehicles and 470 people over the average projected without the HOV lanes. The westbound HOV lane is carrying nearly 20 percent of the total people on the freeway in less than five percent of the total vehicles.

(5) The average AM peak hour carrying capacity of the freeway, based on present occupancy rates, is 5,510 people in 4,200 vehicles without the HOV lanes, and 10,880 people in 5,200 vehicles with the HOV lanes.

(6) The average AM peak hour vehicle occupancy rate (excluding buses) has increased from 1.217 persons per vehicle in 1975 to 1,262 persons per vehicle in 1977. This increase is greater than that shown for two other similar freeways serving the Portland CBD which do not have HOV lanes.

(7) On an annual basis, an estimated 230,000 gallons (870,000 l) of fuel are saved as a result of the HOV lanes, with a monetary savings of nearly $143,000 for users of the preferential lanes.

(8) The HOV lanes result in a travel time savings of 62,500 person hours and a savings in travel time costs of $262,000 annually.

b. Modal Shifts (Refer to Section 4.0)

(1) The HOV lanes enable express buses (Banfield Flyers) to be competetive with single occupant vehicles, providing an incentive for commuters to use public transit as well as carpools.

(2) Banfield Flyer express ridership has increased from 300 persons per day in January 1976 to 633 persons per day in June 1977.

(3) During peak hours, the number of carpools (three or more persons) on the Banfield have increased from 106 in April 1975 to 518 in June 1977.

(4) The AM peak hour vehicle occupancy rate (excluding trucks and buses) increased from 1.217 occupants per vehicle prior to the opening of the HOV lanes to 1.262 occupants per vehicle for the period of April-June 1977.

c. Enforcement of the HOV Lanes (Refer to Section 5.0)

The State Police have been able to overcome the initial enforcement problems and are keeping the violation rate below the acceptable 20 percent. The three month period from April to July 1977 had an HOV lane violation rate of 12 percent. This rate is less than one percent of the traffic in all lanes.

d. Safety (Refer to Section 6.0)

The accident rate per million vehicle miles traveled on the Banfield for the first half of 1977 was 0.8 (0.497km). This compares with 1.203 (0.748km) for 1973, 0.75 (0.466km) for 1974, 0.744 (0.462km) for 1975, and 1.648 (1.024km) for 1976 during the same six month periods.

e. Air Quality (Refer to Section 7.0)

A peak hour analysis of pollutants from the Banfield Freeway traffic during HOV lane operation showed a two percent increase in CO and HC emissions over what would have been anticipated in traffic volumes and a ten percent increase in total vehicle occupants which are also greater than what would have been anticipated without the HOV lanes. Therefore, the freeway with the HOV lanes is moving more people with less pollution emitted on a per person basis than either before the HOV lanes were initiated or would be expected without the HOV lanes.

2.0 BACKGROUND AND DESCRIPTION OF THE PROJECT

The Banfield Freeway serves east Multnomah County as a primary commuter route to and from downtown Portland and the north Portland business/industrial complex. It also serves as the main east-west interstate route through Portland to eastern destinations, thereby attracting considerable truck and tourist traffic. The following pages (Figure 3) contain detailed maps of the Banfield Freeway. The maps are arranged so the reader is traveling from west to east on the freeway. Some of the major features to note are as follows:

Page	Feature
5	General map of the Portland area showing the Sunset, Minnesota (I-5) and Banfield Freeways.
6	Sketch map of Figure 3
7	Portland's Central Business District, Willamette River, Memorial Coliseum, Minnesota (I-5) Freeway.
8	Lloyd Center (a large shopping center/commercial area), 19th & Multnomah location of the environmental trailer used in the air quality studies.
9	End of the westbound HOV lane, 21st Avenue automatic traffic counter.
10	Beginning of the eastbound HOV lane.
11	Full development of the HOV lanes.
12	End of the eastbound HOV lane, beginning of the westbound HOV lane, 82nd Avenue exit to the Portland International Airport.
13	Photo looking east towards 82nd Avenue
14	Photo looking east from 60th Avenue

NOTE: Also located on the maps are the air quality monitoring sites used in the Banfield air quality study.

Carbon Monoxide
Nitrogen Oxides
Lead
Meteorological Tower
Environmental Trailer

FIGURE 1 VICINITY MAP

BANFIELD FREEWAY: N.E. UNION AVE. TO N.E. 82ND AVE. SECTION

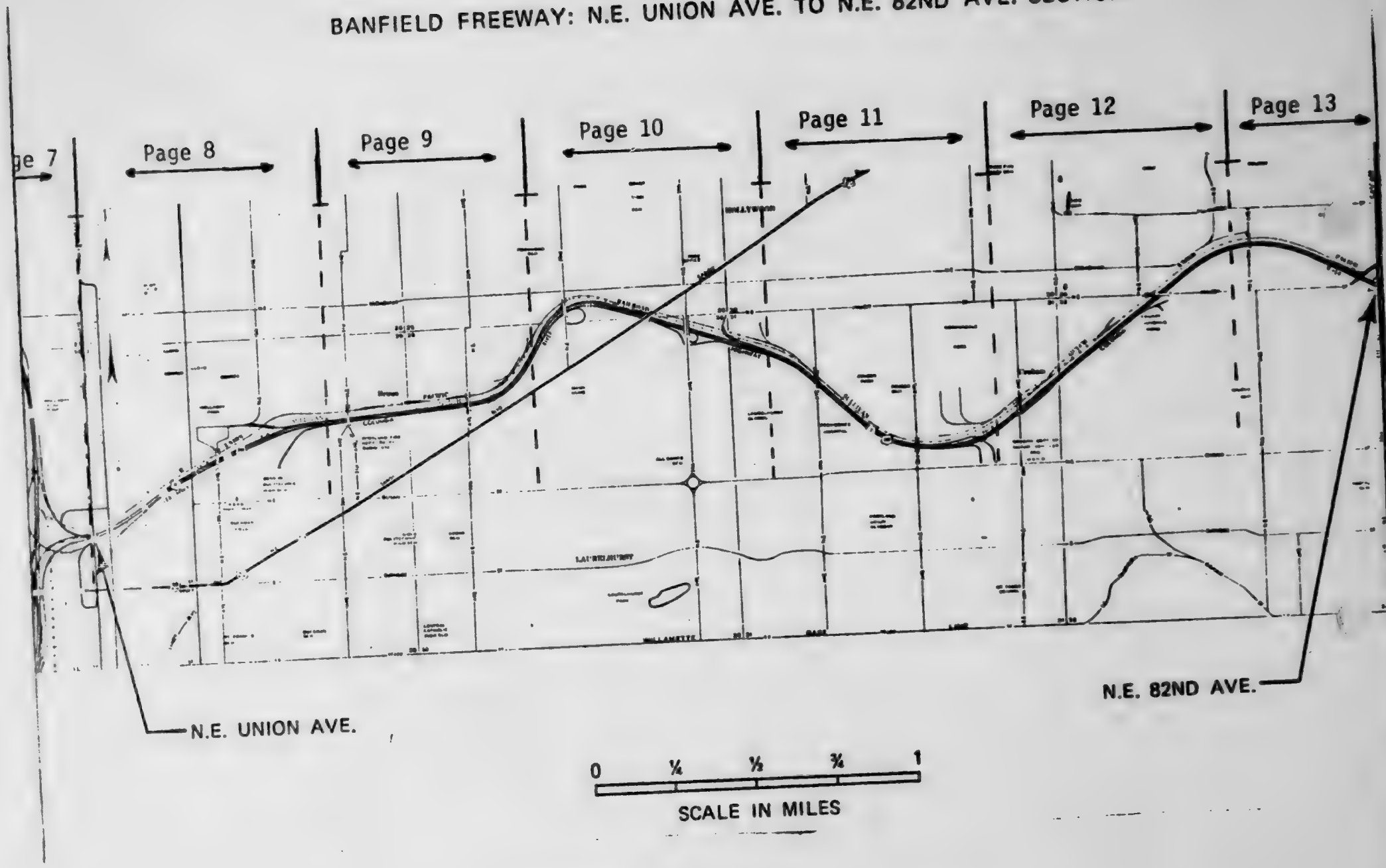


FIGURE 2 SCALE MAP

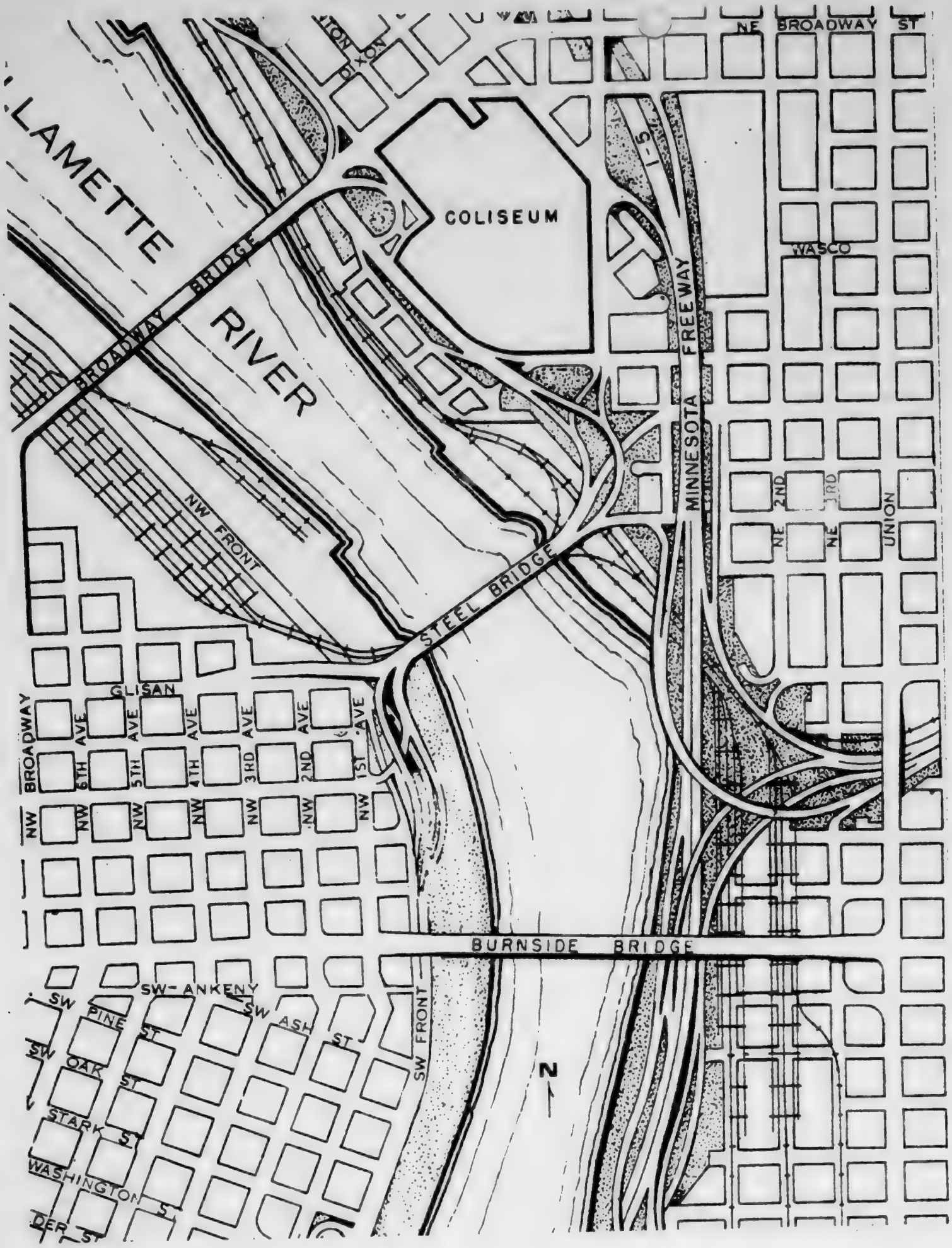
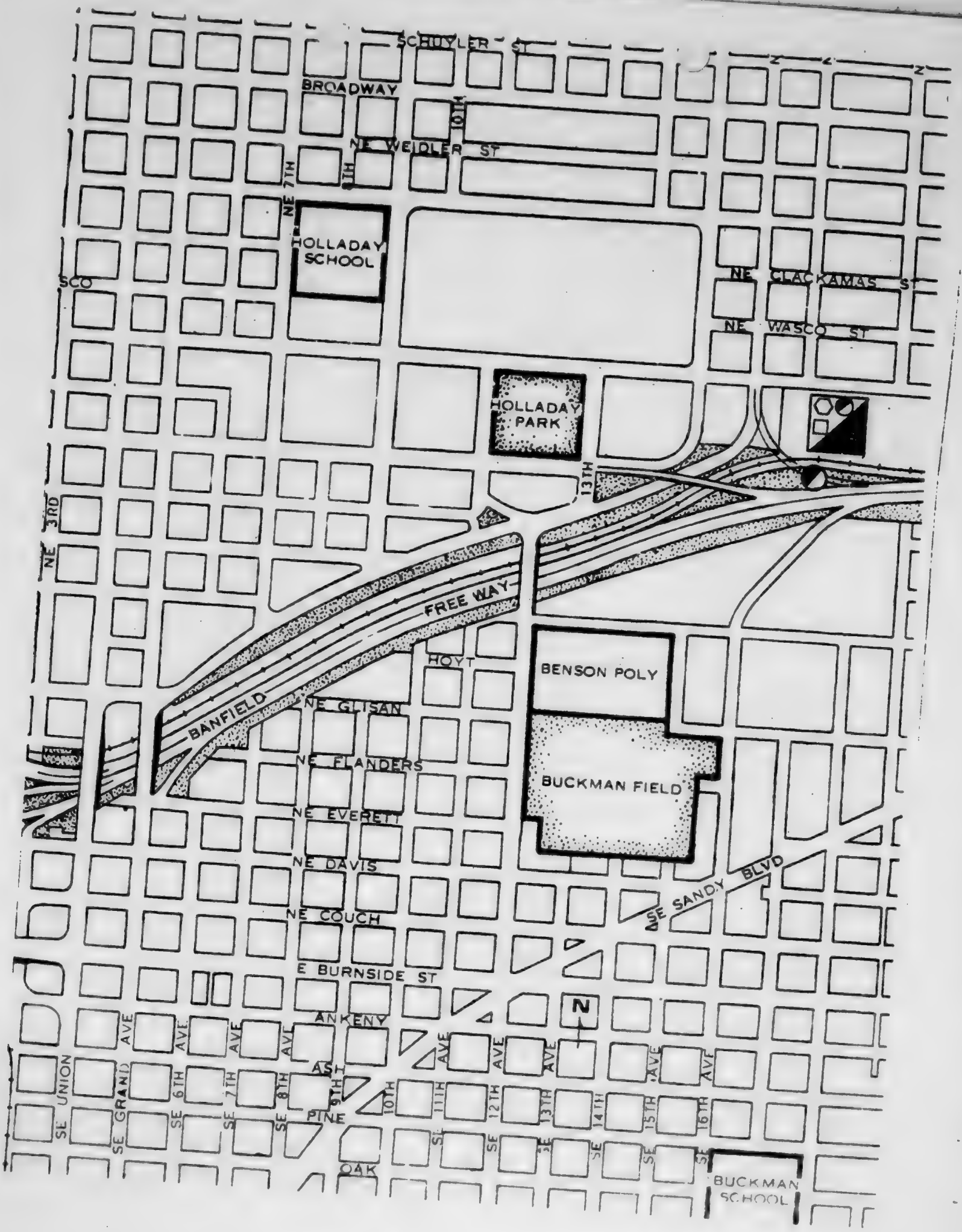


FIGURE 3 BANFIELD CORRIDOR MAPS



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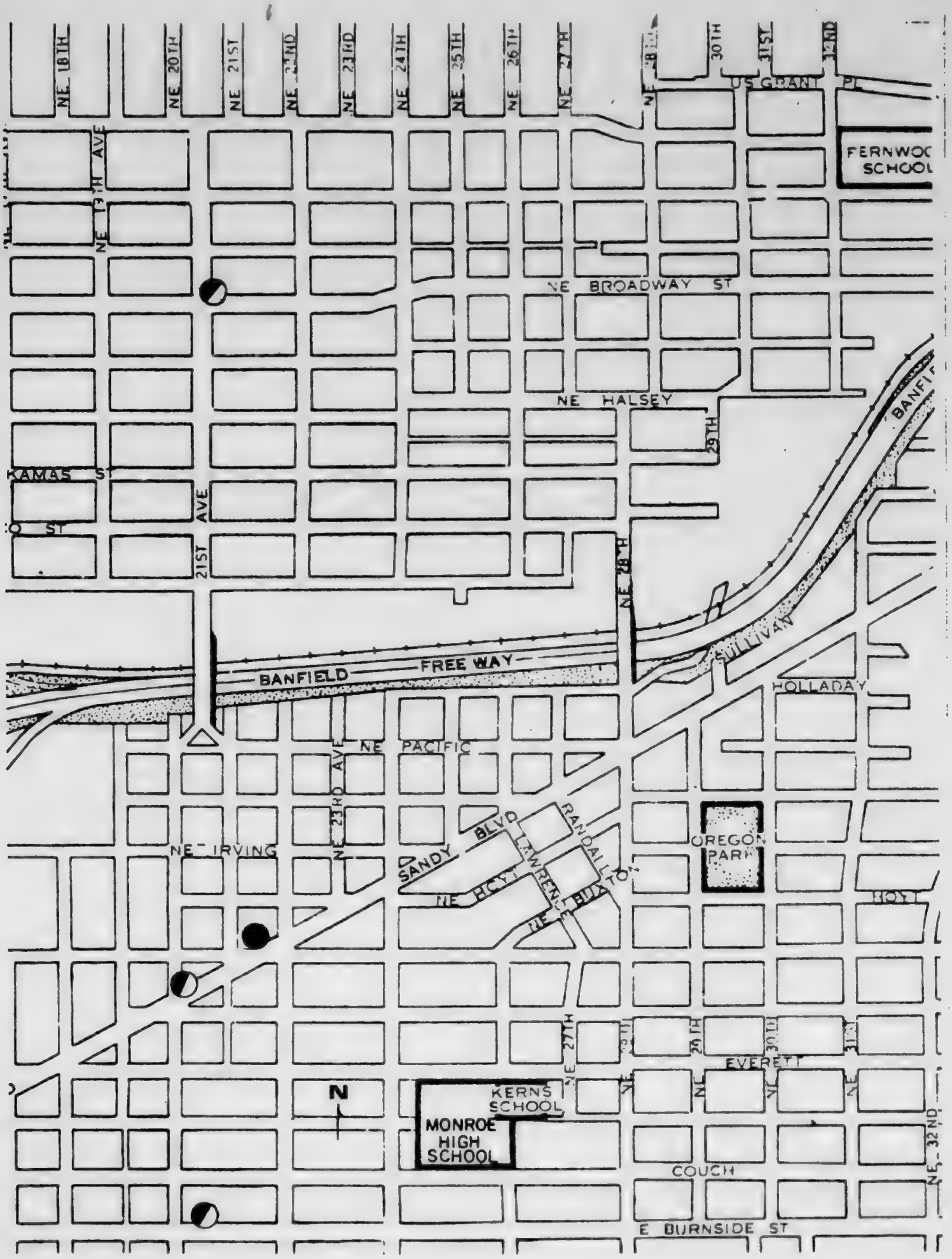

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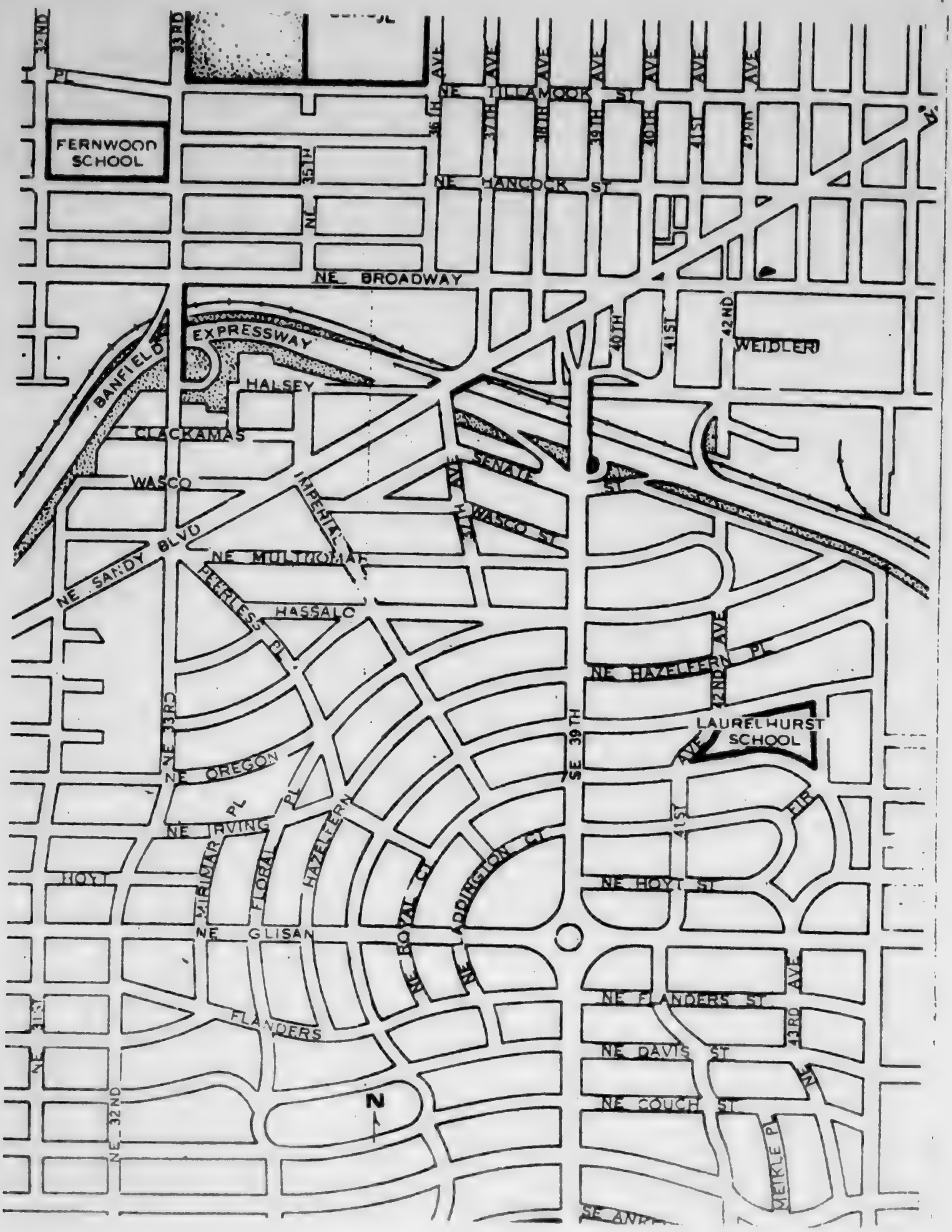

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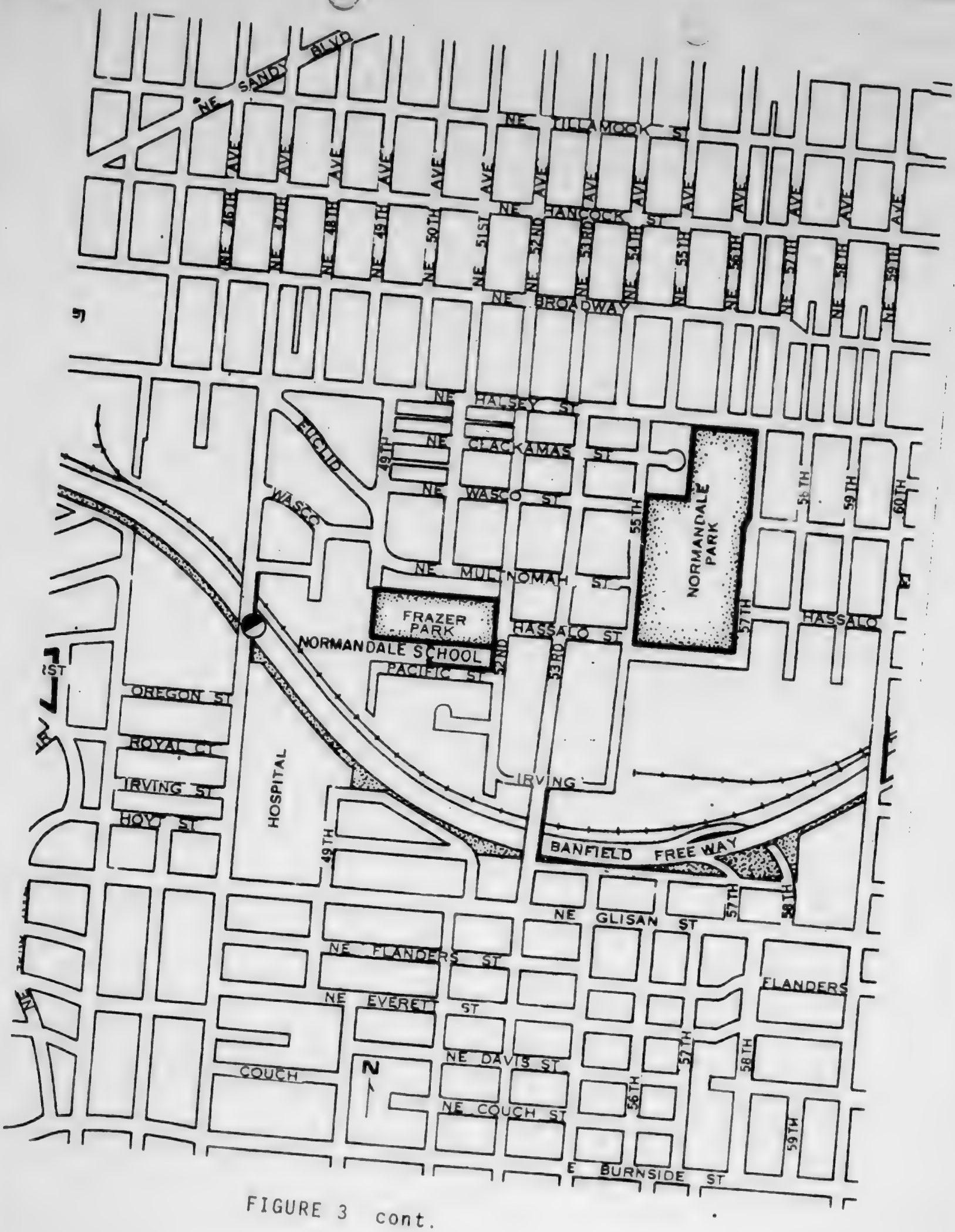

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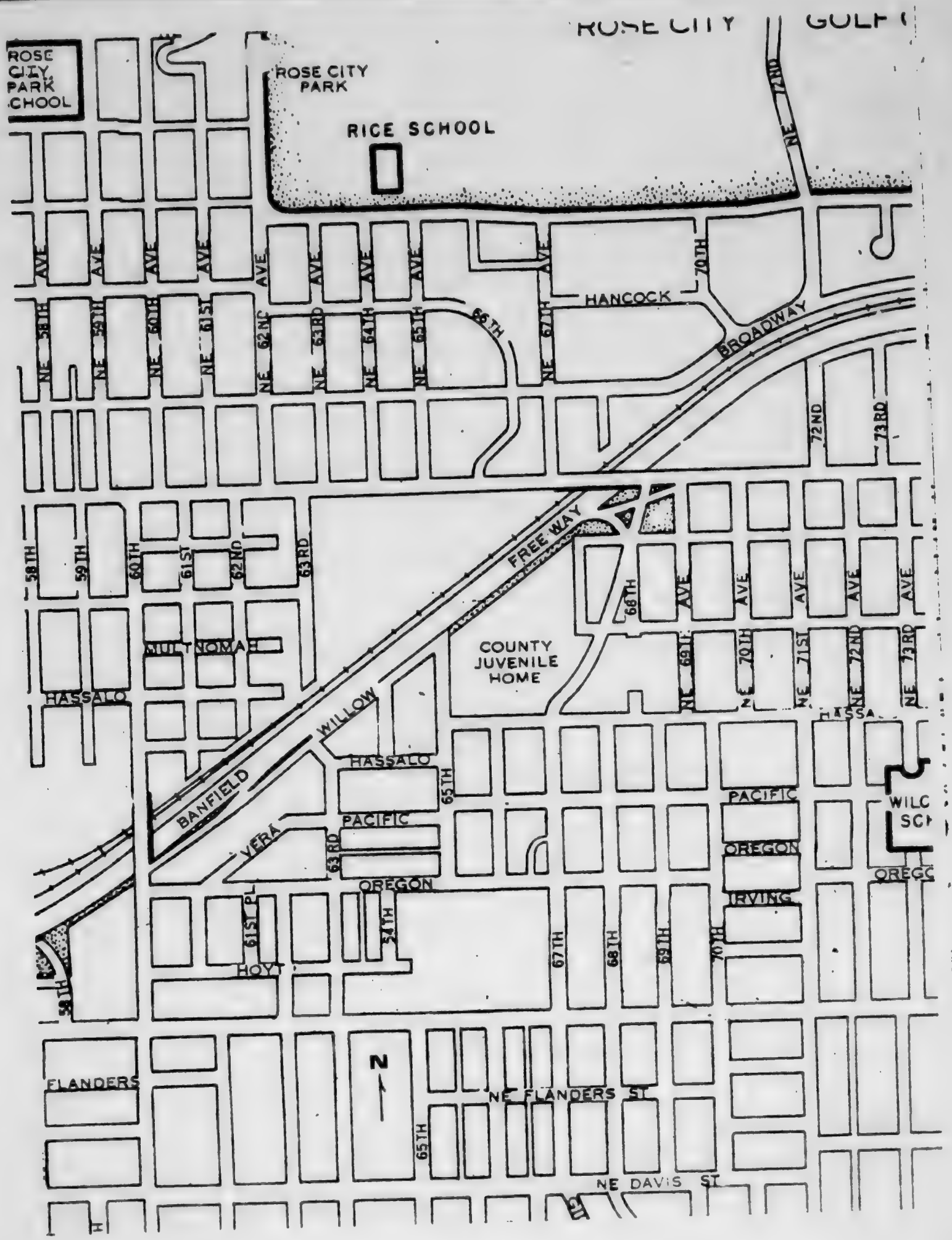

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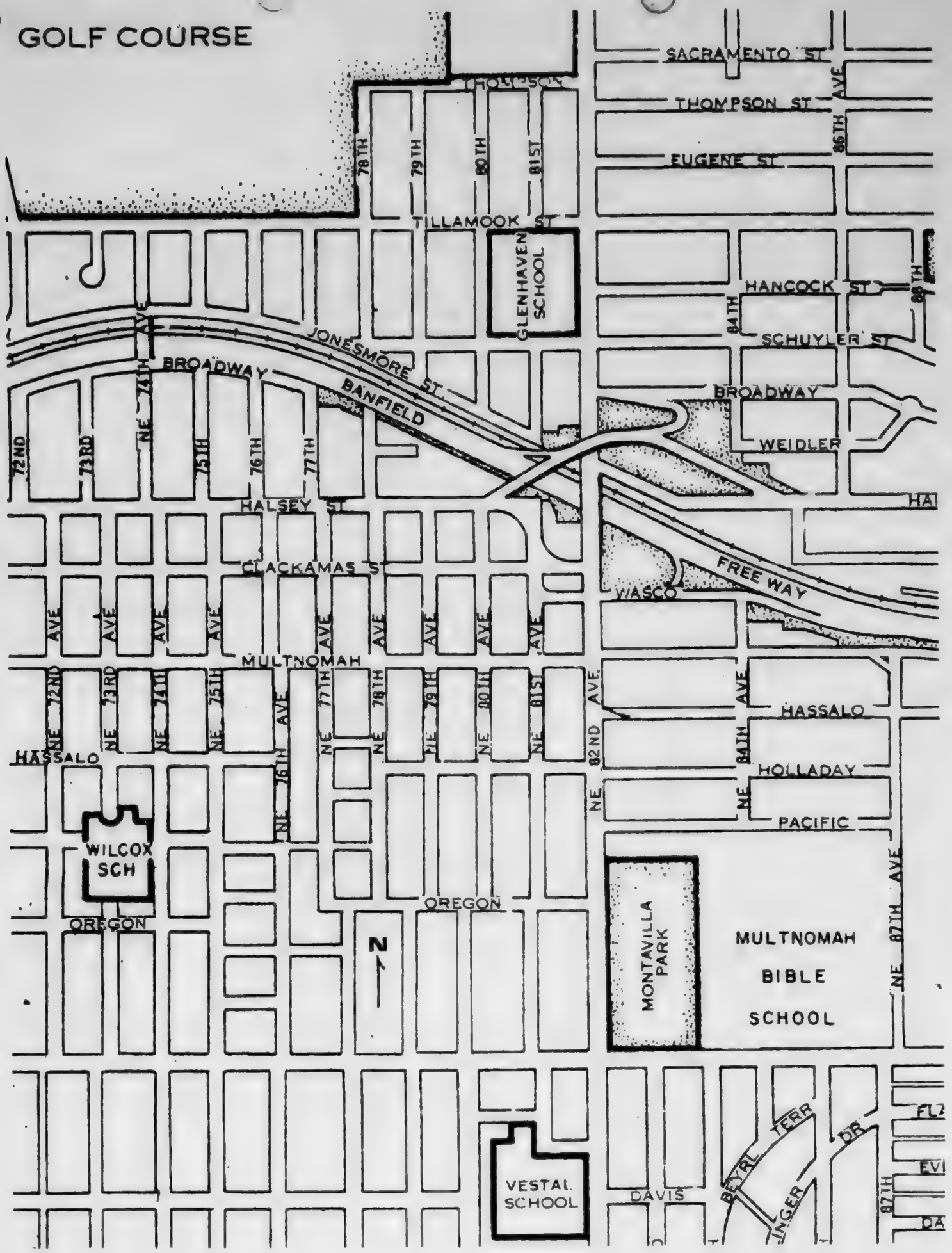


FIGURE 3 cont.

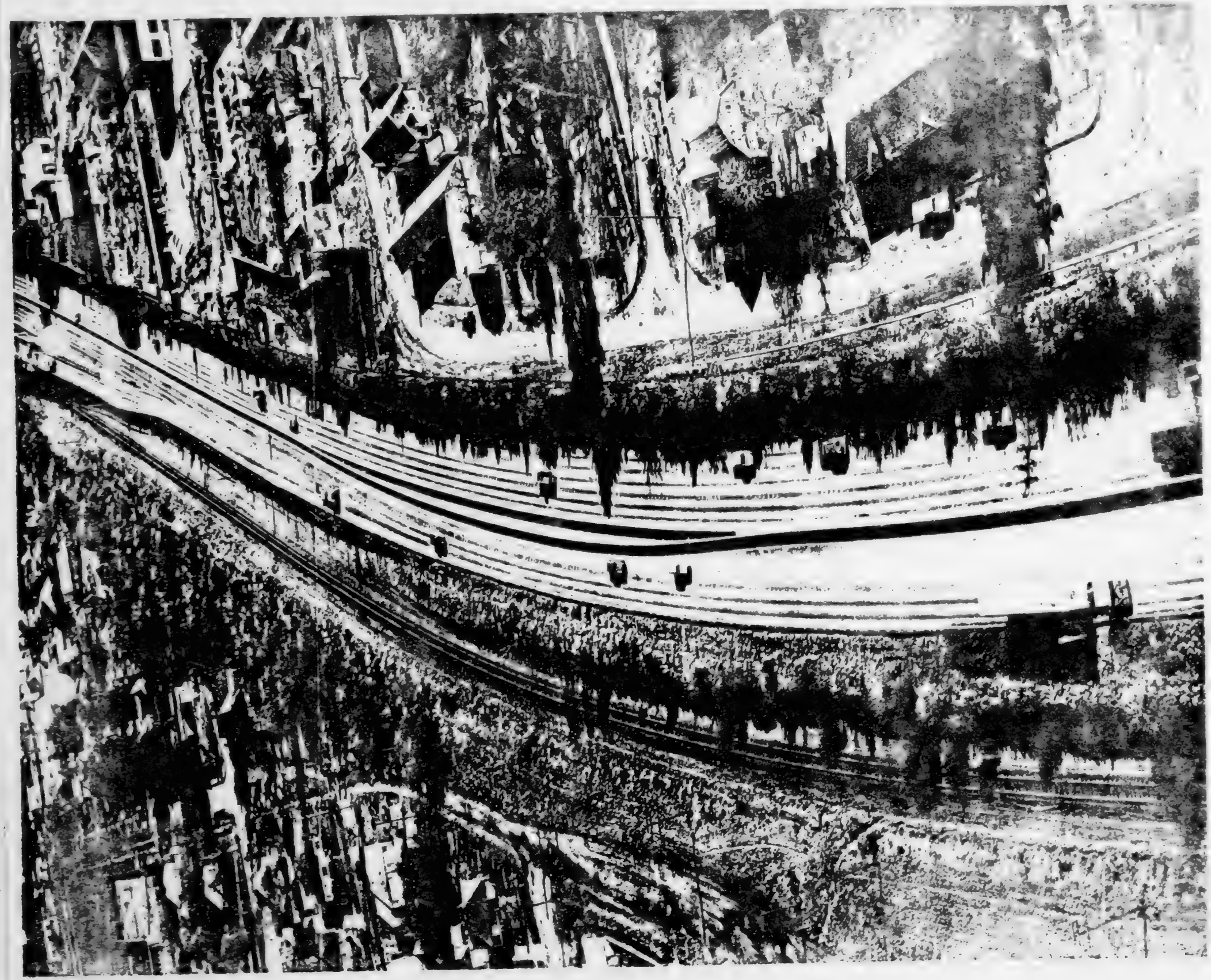


FIGURE 4 LOOKING EAST

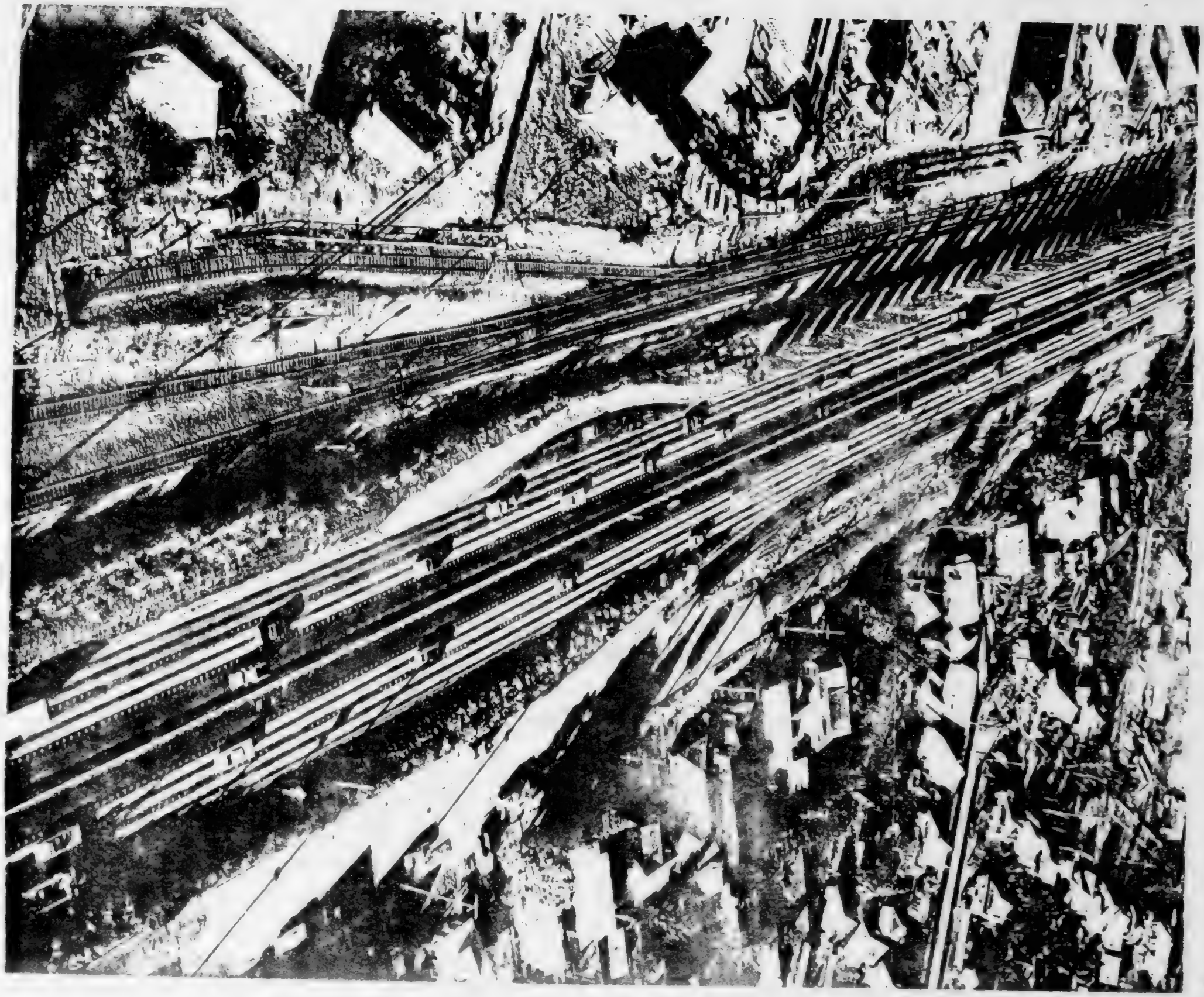


FIGURE 1. U.S. NAVY PHOTO

2.1 History of the Banfield Freeway

Construction of the Banfield Freeway began in 1951. The objective of that project was to help relieve congestion on city arterial streets and replace US 30 (Sandy Boulevard) as the main interstate route east out of Portland. The four lane section east of 39th Avenue was completed and opened to traffic in 1955. In 1956, it was made a part of the new Federal Interstate Highway System and designated Interstate Route 80N. The six lane section from Third Avenue to 39th Avenue was completed and opened in 1958. The Banfield was connected to the Minnesota (I-5) Freeway in 1964. Since that time, there have been no major revisions to the Freeway until the HOV lane demonstration project was instituted in 1975.

2.1.1 The Setting

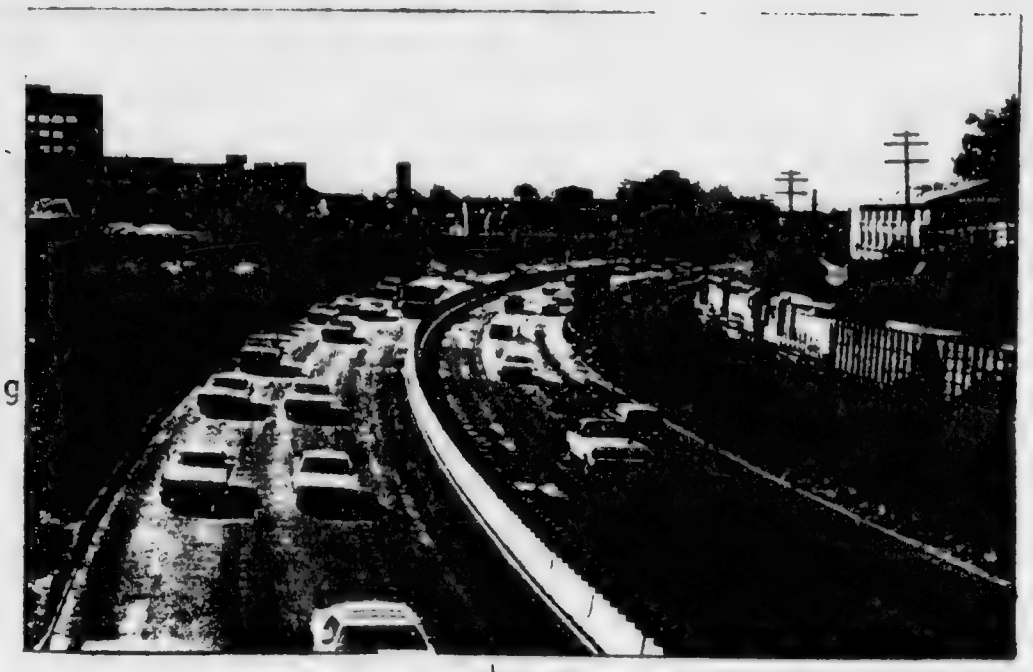
The general topography of the Banfield Freeway consists of gently rolling terraces which slope westerly to the Willamette River. A group of small volcanic intrusions protrude above the surrounding terraces. Those nearest the Banfield include Rocky Butte near 82nd Avenue, and Mt. Tabor, a short distance south. Sullivan Gulch (the freeway corridor) is a natural drainage depression that runs in a meandering fashion near Rocky Butte west to the Willamette River. The gulch, which begins at grade in the easterly portion of the freeway, gradually increases in relief in a westerly direction, where it attains a 20 to 30 foot (6.1 to 9.15m) depth below the adjacent terrain. It has long been utilized as a natural gentle-grade transportation route from the Willamette River east to the Columbia River floodplain. Sullivan Gulch passes through some of the most densely developed residential, commercial, and industrial areas of northeast Portland. The freeway passes within several blocks of the Lloyd Center, a major commercial development that employes almost 8,000 people in a 110 store shopping area and three highrise office buildings. The Banfield Freeway and the Union Pacific Rail-road share the gulch as a corridor. The freeway occupies the southern side of the gulch while the railroad mainline tracks occupy the northern side. The freeway grade is approximately 10 to 15 feet (3.05 to 4.58m) higher than the railroad grade throughout most of the route. Figure 6 contains several views of the Banfield Corridor showing the freeway and the railroad.

2.1.2 The Problem

Since construction, the Banfield Freeway has become the primary commuter route between east Multnomah County areas and the Portland CBD. Between 1960 and 1975, the population of east Multnomah County increased from 175,000 to 235,000. The population is projected to increase to 302,000 by the year 1990. A similar relative population increase is projected for the four main employment areas served by the Banfield. The Portland CBD, the NW Industrial Area, Lloyd Center commercial area, and Swan Island Industrial Park. The number of employees is projected to increase from 88,000 in 1975 to 115,000 in 1990 (Figure 7).

Looking west from 53rd Avenue over-crossing.

Looking west from
62nd Avenue overcrossing



View from 60th Avenue overcrossing looking east. Emergency parking bay can be seen in the center of the photo.

FIGURE 6 VIEWS OF THE BANFIELD CORRIDOR

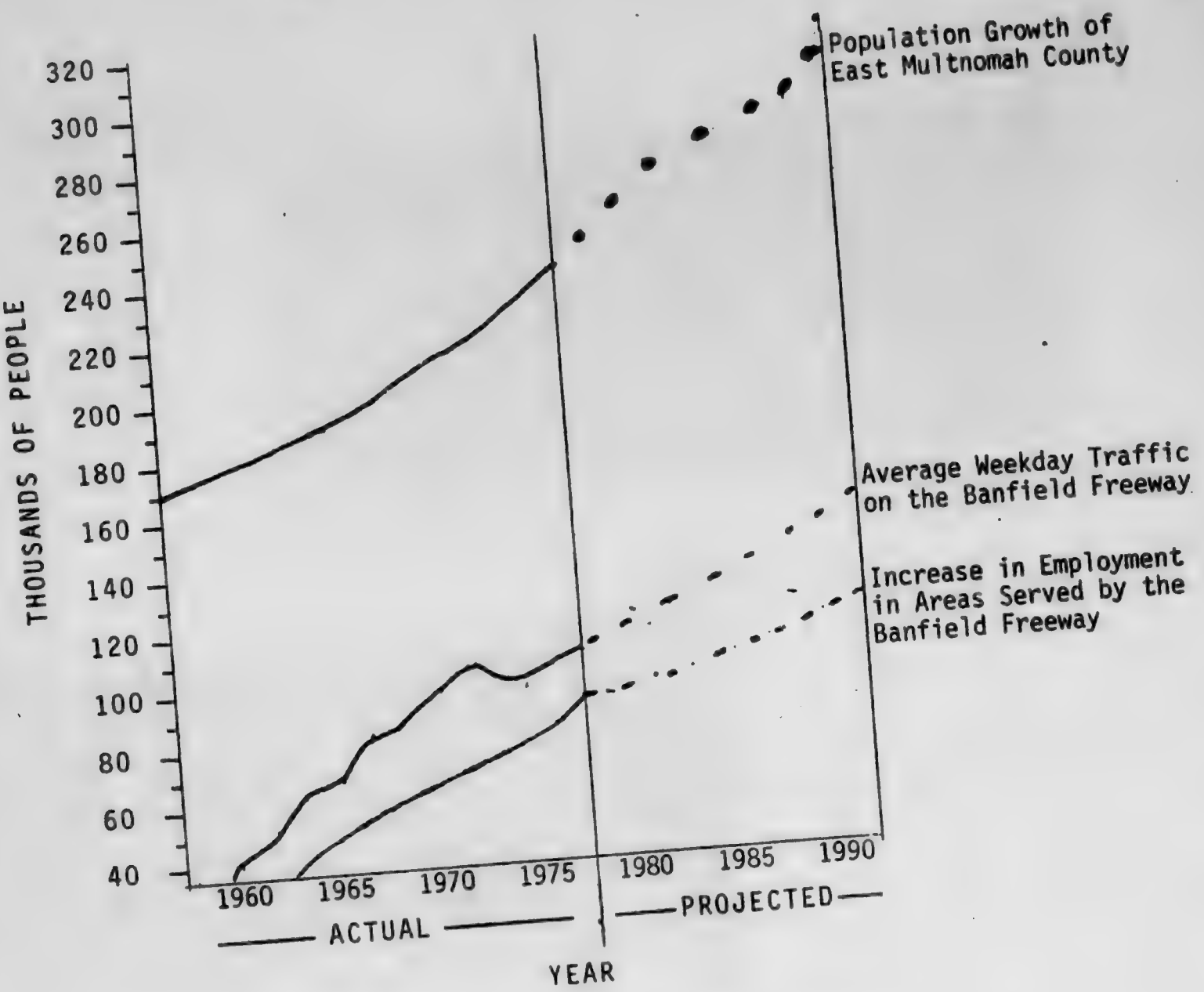


FIGURE 7 POPULATION GROWTH TRENDS

Between 1960 and 1970, the Average Weekday Traffic (AWD) on the Banfield Freeway increased from 40,000 to 100,000 vehicles.[1] The design capacity of the freeway was 60,000 vehicles per day. After a leveling off during the fuel shortage in 1973, the freeway has continued to increase in the number of vehicles per day. Individual peak days in the latter half of 1974 registered volumes in excess of 115,000 vehicles per day. The 115,000 vehicle total is in contrast to the approximately 40,000 vehicles per day in 1959 (Figure 8). The Banfield has become the most heavily traveled section of highway in the state of Oregon. It was expected that the Banfield AWD would continue to increase by two percent per year, reaching 138,600 by 1990. Without capacity improvements, a complete breakdown in the operation of both the Banfield and adjacent east-west arterials would have occurred.

1. Based on traffic counts taken at 21st Avenue

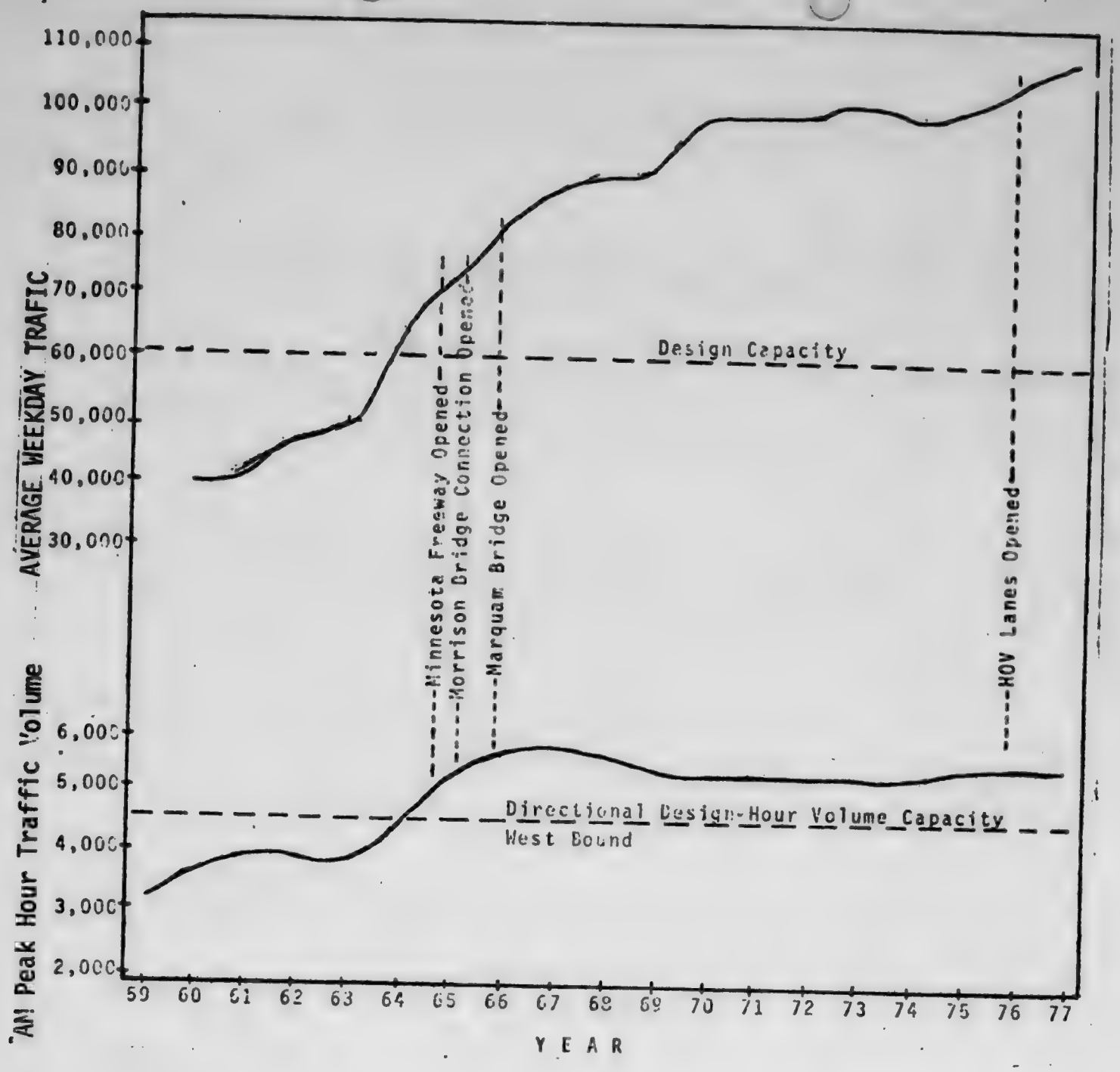


FIGURE 8 BANFIELD FREEWAY AVERAGE WEEKDAY TRAFFIC

A more immediate problem was accommodating the peak period volumes on the Banfield. Since 1967, the peak hour volumes have stabilized between 1,800 and 2,000 vehicles per lane per hour, while the length of the peak periods and the AWD has continued to increase. That the lane volumes had reached capacity is borne out by the growing morning and evening peak periods in which the freeway operated at levels of service varying from Forced (F) to Unstable (E) flow (Table 1). Clearly, the original design capacity of 1,500 vehicles per lane per hour had been met in 1967 and the freeway was responding to increased traffic loads through reduced levels of service and longer peak periods.

TABLE 1

LEVELS OF SERVICE ON FREEWAYS
As defined by the 1965 Highway Capacity Manual

Level of Service "A"

Free flow operation with operation speeds of 55 to 60 MPH (88-96km/h)

Level of Service "B"

The higher speed range of stable flow with operating speeds[1/] of 55 to 60 MPH (88-96km/h).

Level of Service "C"

Considered stable flow with operating speeds between 50 and 55 MPH (80-88km/h). Drivers have freedom to maneuver and flow can be maintained for extended periods of time.

Level of Service "D"

Approaches unstable flow with operating speeds above 40 MPH (64km/h). Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Comfort and convenience is low and freedom to maneuver is restricted.

Level of Service "E"

Unstable flow with operating speeds about 30-35 MPH (48-56km/h) and volumes approaching capacity. There may occur short periods of stoppage.

Level of Service "F"

Forced flow condition at which operating speeds range downward from 30 MPH (48km/h) to stop-and-go type operation. Volumes vary widely depending on downstream capacity.

Operating speeds on other multi-lane highways will be about five MPH (eight km/h) less at each service level.

1/Operating Speed: The highest overall speed at which a driver can travel on a given highway under favorable weather conditions and under prevailing traffic conditions without at anytime exceeding the safe speed as determined by design speed on a section-by-section basis.

The location of the Banfield's critical traffic flow areas are from 58th Avenue for westbound morning traffic, and in the vicinity of the lane drop at 39th Avenue for the eastbound evening flow. Average speeds in these sections were reduced to 15 MPH or less during the peak periods.

The east-west arterial street system in the vicinity of the Banfield had a limited capacity to absorb additional traffic diverted from the Banfield.

In addition to the traffic flow problems, there were two major safety deficiencies on the Banfield that required immediate attention regardless of the type of capacity improvement implemented. The extremely heavy use of the Banfield had caused extensive lane rutting. This situation presented hazardous driving conditions in wet weather when standing water created the potential for tire hydroplaning; and, under both wet and dry conditions, a problem in controlling vehicle direction. The other major problem lay with the median guardrail. It was a metal rail and wood post construction and was severely deteriorated. An accumulation of pavement overlay had reduced its relative elevation to the point that it was no longer an effective barrier.

2.1.3 Alternatives Studied

In response to the identified problem, four alternatives were studied:

a. Do Nothing

This alternative would have resulted in expanded periods of congestion as traffic demand increased. The consequent traffic delays would have had an adverse impact on the already unacceptable levels of air pollution.

b. Ramp Metering

Placing a control over the amount of traffic entering the freeway would have transferred the congestion problems to the adjacent arterial streets; hence, not resulting in a satisfactory transportation improvement in the corridor.

c. Additional Unrestricted Lanes

The experience nationwide is that added freeway lanes tend to be self-fulfilling in demonstrating their need. In general, only a short-term relief is realized before the additional lanes generate more traffic and negate whatever level of service improvements that may have been initially achieved.

An added consideration is that the Minnesota (I-5) Freeway was operating at near capacity and would have been incapable of dispersing a significant increase in morning commuter traffic from the Banfield (Refer to Vicinity Map on Page 5).

d. Improving Bus Service

It was apparent that increased transit service could easily absorb the projected trip volumes as well as relieve existing congestion if an adequate proportion of the Banfield users could be persuaded to take the bus. The experience of the Tri-Metropolitan County Transit District (Tri-Met) indicated that with a significant savings in time or money, and increased transit service availability, transit could attract a reasonable share of the trips currently using the Banfield.

The Highway Division became particularly interested in an idea to add two lanes to the freeway by reducing the width of existing lanes and utilizing shoulder space. It was anticipated that for the reasons mentioned in the above discussion of alternatives, combined with environmental concerns, using the added lanes for regular traffic would be unacceptable. However, reserving the added lanes for high occupancy vehicles appeared to offer the means to relieve congestion in an environmentally acceptable manner. A feasibility study was made and presented to the Oregon Transportation Commission (OTC) for approval. In January, 1976, the OTC granted the approval to incorporate HOV lanes on the Banfield Freeway.

2.2 Planning

In 1974, the U.S. Congress passed the Emergency Highway Energy Conservation Act. Included in this act was Section 3(e) "Carpool Incentives and Opportunities" in which the diamond lane concept for preferential carpool and bus lanes was included. The act authorized the use of Federal Aid Funds for urban carpool demonstration projects. Eligible projects included carpool matching programs, designation of exclusive and preferential lanes for carpools and buses, traffic control devices for preferential carpool facilities, signing and minor modifications of publicly-owned parking facilities to provide preferential carpool parking, and coverage of start-up costs in connection with vanpool systems.

The 1974 act influenced the Oregon Department of Transportation's (ODOT) response to the congestion problem on the Banfield. With encouragement and support from the local FHWA office, ODOT began the planning effort to implement the preferential lanes. The Oregon Department of Environmental Quality was consulted for their requirements under the Indirect Source Guidelines for Air Quality. An Indirect Source Permit was granted with the condition that an extensive traffic and air monitoring program be carried out to evaluate the effectiveness of the HOV lanes in improving air quality. FHWA concurred with the ODOT decision to classify the project as a "Major Action, Nonsignficant", and a draft and final Negative Declaration were prepared pursuant to the regulations set forth in the Federal Highway Program Manual, Volume 7, Chapter 7, Section 2.

A Technical Advisory Committee (TAC) was formed to aid in the planning and implementation process. The members of the Banfield TAC, which remains as an active advisory body, ar

Oregon Department of Transportation
Oregon State Police
Tri-County Metropolitan Transit District (Tri-Met)
Multnomah County Planning Department
Inner Southeast Neighborhood Coalition
Hollywood Boosters
Hollywood Kiwanis
Oregon State Department of Environmental Quality
City of Portland Planning Bureau
City of Portland Traffic Engineer
Multnomah County Circuit Court

ODOT staff members for the committee included:

Project Information Officer
Traffic Engineer
Environmentalist
Design Engineer

As the planning program moved forward, the TAC met at regular intervals to review progress and make recommendations. Some of the topics addressed by the TAC were:

a. Possibility of using contra-flow lanes

b. Ramp metering as a solution to the Banfield problem

c. Location of the HOV lane on the freeway

d. Bus operations on the Banfield Freeway and the HOV lane

e. Safety of the narrowed lanes

f. Construction speed limits

g. Marketing program for the new lanes

h. Wording on the HOV lane signs

i. Procedure for handling disabled vehicles on the Banfield Freeway

j. Installation of telephones in emergency pull-off areas

During the ensuing months after the HOV lanes were opened, the TAC addressed:

a. Speed limits after construction was completed

b. Ramp revisions to improve exit and entrance safety

c. Installation of a median glare shield

d. Court handling of HOV lane violation cases

e. Ramp control during peak hours.

f. Allowing taxis to use the HOV lanes even though there were not three people in the vehicle.

g. Changing the hours of operation of the HOV lanes and reducing the number of people that constitute a carpool.

h. Assisting in the implementation of parking incentives in downtown Portland.

2.3 Project Description

The project description has been divided into three subtopics. The description of "signing" was separated from the usual dichotomy of "Operations" and "Construction" due to the unique signing needs and problems encountered on this project.

2.3.1 Construction

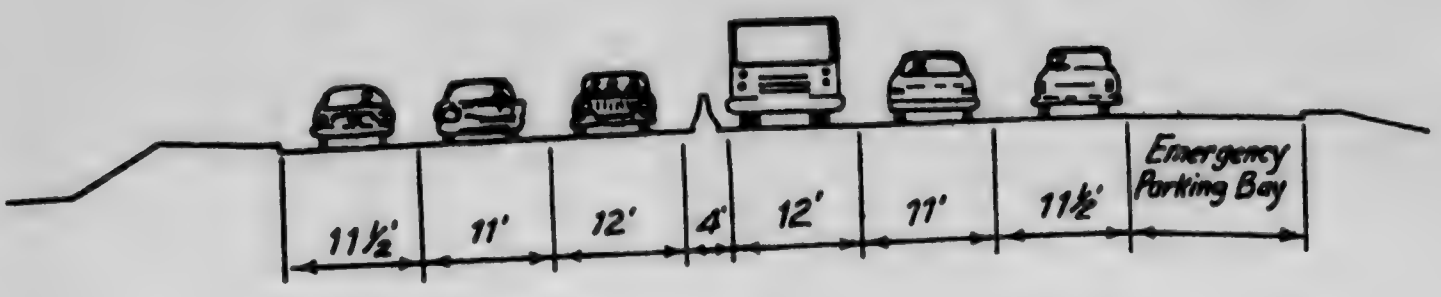
The project was constructed in concert with the maintenance and safety improvements which were required regardless of whether the HOV lanes were implemented. Maintenance consisted of an open graded asphaltic concrete overlay and the safety improvements included upgrading the shoulder guardrails, replacing the existing metal median guardrail with a New Jersey type concrete barrier, and providing barrier attenuation at bridge abutments.

The HOV lane project consisted of the following construction items.

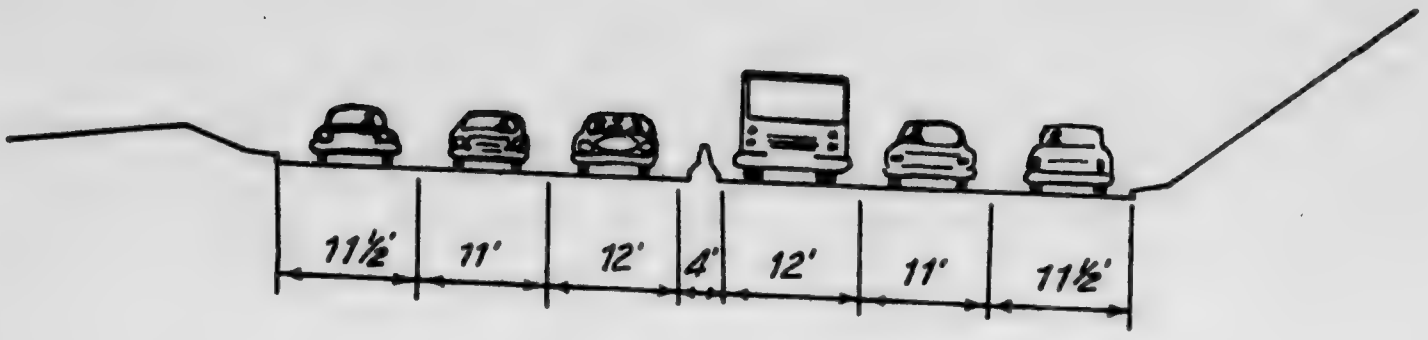
a. The combined contract cost was $1,750,000. The estimated cost of the HOV lane portion was $500,000 or 30 percent of the total amount contracted.

b. It was necessary to restripe the entire roadway section using all the pavement between the shoulder rails for travel lanes. It should be emphasized that there was no reduction in the number of lanes available to normal traffic. The HOV lanes were derived by reducing the width of the existing travel lanes by one foot (30cm) and eliminating the shoulder pull-off area. The consequent relative lane widths are 11.5 feet (3.35cm) for the outside lane, 11 feet (3.66cm) for the center lane, and 12 feet (3.15cm) for the inside or HOV lane (Figure 9).

c. In order to mitigate the loss of shoulder area, emergency parking bays were provided at approximately 2,000 foot (610m) intervals where possible. These bays were 150 feet (46m) long with a 75 foot (23m) taper section leading into and out of the bay (Figure 10). Eight bays were originally proposed. However, one site was eliminated because of retaining wall problems.



Looking East Near Providence Hospital



Looking East at NE 74th Ave.

FIGURE 9 BANFIELD CROSS SECTIONS

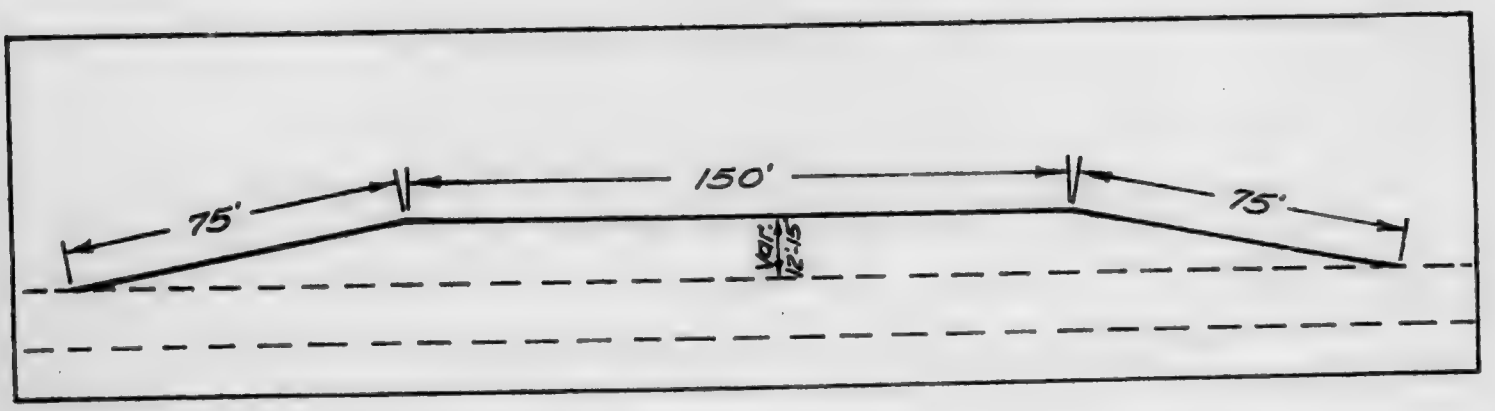


FIGURE 10 EMERGENCY PARKING BAYS

d. Standard raised button striping was used in a pattern consisting of four opaque and one reflectorized buttons in a 15 foot (4.6m) strip, at 40 foot (12.2m) intervals for the nonrestricted travel lanes. A continuous button stripe containing a reflectorized button every 40 feet (12.2m) was used to delineate the HOV lanes. The raised buttons provided the added advantage of creating a rumble strip to alert motorists of unintended lane changing (see Figure 5).

e. Due to the physical restraints of the gulch and the financial and temporal inability to purchase right-of-way or perform major reconstruction, it was found that the westbound (inbound) HOV lane could only be added between 74th Avenue and 21st Avenue, and the eastbound (outbound) HOV lane could only be added between 44th Avenue and 74th Avenue.

f. The transition into the HOV lane, eastbound and westbound was achieved through a tapered median which moves the alignment of the nonrestricted travel lanes the width of one lane to the right (Figure 11). The shoulder area was eliminated to gain the necessary width of one additional lane. At the completion of moving all traffic to the right, the median taper is reversed, creating an additional lane reserved for high occupancy vehicles. No lane changing is required for normal traffic. Eligible vehicles choosing to use the HOV lane must move left into the restricted lane. At the terminus of the HOV lanes, the lane continues as a normal travel lane. The right-hand, unrestricted lane is eventually terminated.

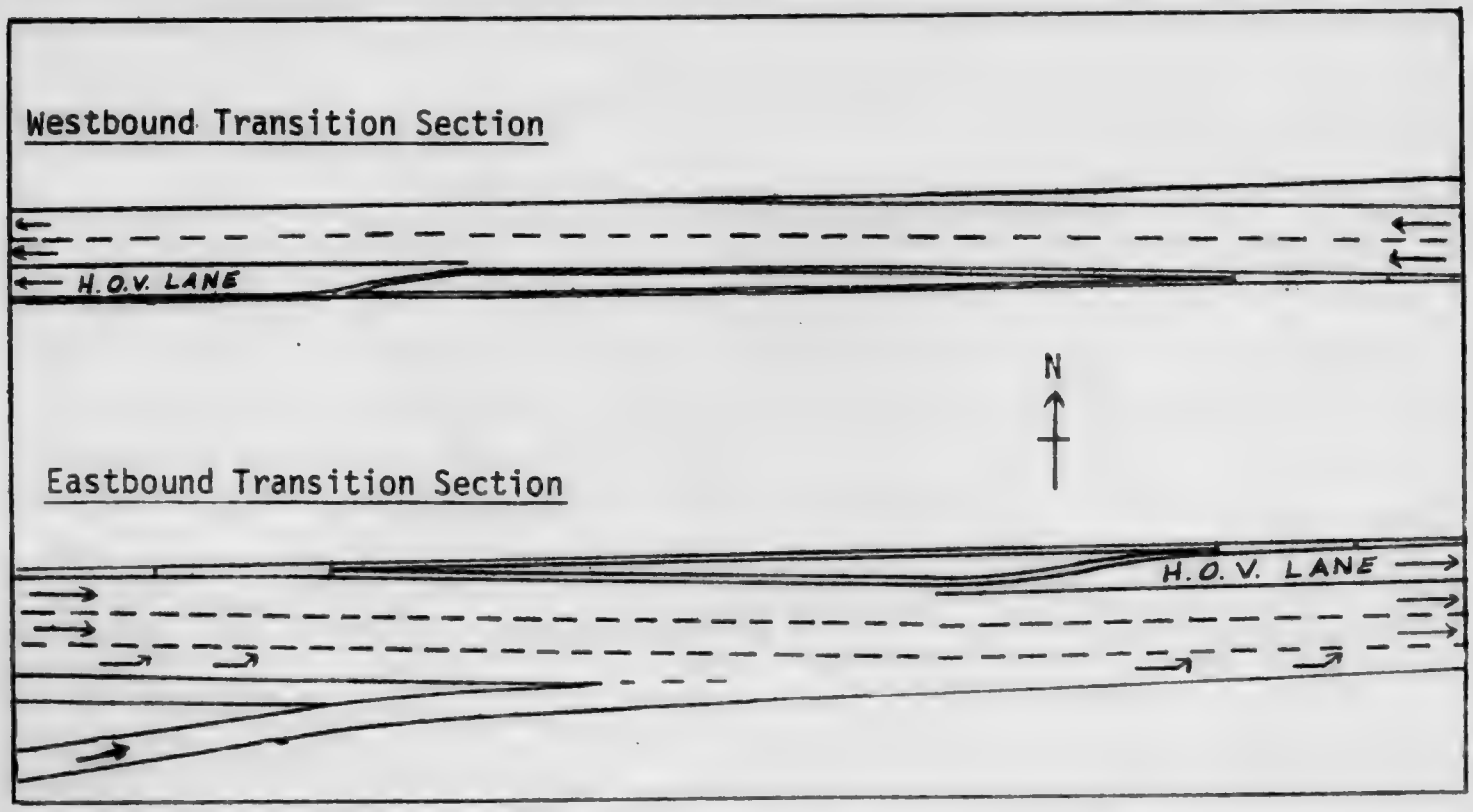


FIGURE 11 HOV LANES TRANSITION SECTIONS

g. Soon after the project opened, it became apparent that there was a merging problem at the on-ramps of; 33rd Avenue, 39th Avenue eastbound, 58th Avenue, and 82nd Avenue/Halsey Street westbound. This problem resulted from moving the outside travel lane onto the shoulder which, in turn, shortened the acceleration lane to the point that vehicles could not safely merge with freeway traffic. The problem was corrected by adding additional work to the contract to provide longer merge distances.

2.3.2 Signing

It was necessary to provide signing that would adequately instruct the motorist on the operation of the HOV lanes yet minimize distraction and be easily read from a vehicle moving at freeway speeds. The signing for the HOV lanes consists of:

a. "Restricted Lane Ahead" to provide advance notice of the HOV lanes. The sign measures eight feet, six-inches wide and five-feet high (1.5m and 2.6m) with ten-inch (.25m) lettering. They are placed directly over the lane approximately 2,000 feet (610m) before the beginning of the HOV lane (Figure 12).

b. "Buses and 3 Person Carpools Only" posted at the beginning of the HOV lanes measure nine-feet (2.7m) wide and seven-feet (2.1m) high with ten-inch (.25m) lettering. They are spaced throughout the reserved lane approximately 2,000 feet (610m) apart. Distance is dictated by the location of overhead structures on which the signs are mounted (Figure 13).

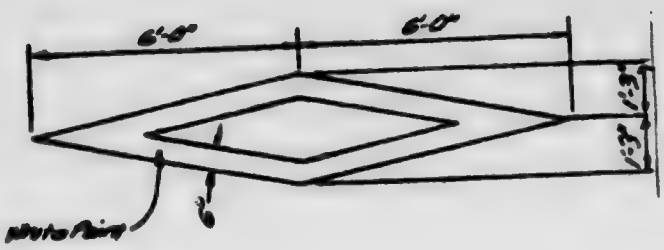
FIGURE 12 SIGNING

FIGURE 13 SIGNING

c. "Restricted Lane Ends" posted at the terminus of the HOV lanes measure eight feet six inches (2.6m) wide by five feet (1.5m) high with ten-inch (.25m) lettering (Figure 14).

FIGURE 14 SIGNING

d. Large diamond symbols are painted on the road surface every 500 feet throughout the restricted lane (Figure 15).



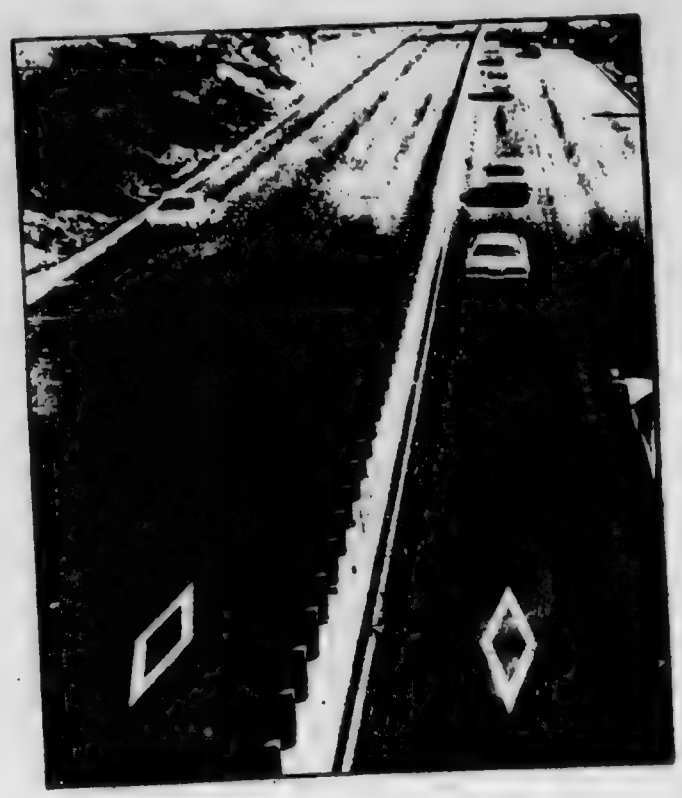


FIGURE 15 SIGNING

e. "55 MPH" (88km/h) signs are posted throughout the HOV lane section. Originally a 45 MPH (72km/h) limit was in effect, but later was raised after project construction was completed.

f. Normal signs for an urban freeway are installed as needed along the Banfield route.

2.3.3 Operations

The Tri-County Metropolitan Transit District (Tri-Met) commenced "Banfield Flyer" express bus service on the Banfield in December 1975, 15 days before the HOV lanes were put into operation. This was necessary due to scheduling requirements and a media advertising program which reflected an earlier opening date for the HOV lanes. The project was formally opened on 15 December 1975, reserving two lanes for high occupancy vehicles 24 hours a day, seven days a week. The construction speed limit of 45 MPH (72km/h) was retained after the opening due to remaining construction work still in progress.

As a result of substantial public criticism, the times HOV lane restrictions were effective was modified on 18 March 1976 to 6:00-10:00 AM westbound and 3:00-7:00 PM eastbound Monday through Friday. At this time, the speed limit was increased to 55 MPH (88km/h) which was the original speed limit prior to HOV construction.

A determination was made that these revisions would not adversely affect the intent or performance of the HOV project. The speed in all lanes had exceeded the speed limit during off-peak hours, hence the reserved lanes did not provide a carpool incentive for off-peak traffic. Additionally, HOV lane enforcement was facilitated by shortening the number of restricted hours during which special policing was required.

The time restrictions were further modified on October 11, 1976 to 6:30-9:30 AM westbound and 3:30-6:30 PM eastbound. These times remain in effect today.

3.0 ANALYSIS OF TRAFFIC FLOW CHARACTERISTICS

The traffic analysis for the Banfield HOV lane project was based primarily on observation of the AM peak traffic flow for two reasons. First, the inbound HOV lane is approximately twice as long as the outbound lane, therefore providing a greater incentive for use. Second, inbound traffic conditions usually affect changes in vehicle occupancy and shift to public transit more than outbound conditions. Inbound traffic is primarily composed of commuters whereas outbound traffic includes shoppers.

3.1 Traffic Volumes

a. Average Weekday Traffic - The permanent recorder located at 21st Avenue on the Freeway showed a 1975 average weekday traffic (AWD) count of 105,800 vehicles for the three month period of April-June. During the previous ten years, the AWD had increased approximately 529 percent per year (Figure 16). Therefore, under a normal growth projection without the HOV lanes, traffic would be expected to increase to 110,000 AWD for the same time period in 1977. However, with the HOV lanes in operation, the Banfield is presently carrying an AWD of 112,100, a 2,100 increase.

This increase (two percent) may be a result of diverted traffic from adjacent east-west arterial streets. Most of the diverted traffic came from arterial streets between and including Broadway and Burnside Streets. In 1975, these streets carried 65,000 AWD. After the HOV lanes were opened, the AWD on these streets dropped approximately three percent. The diversion is greater than 2,100 AWD, apparently because some automobile travel has been eliminated as a result of increased carpooling and bus ridership.

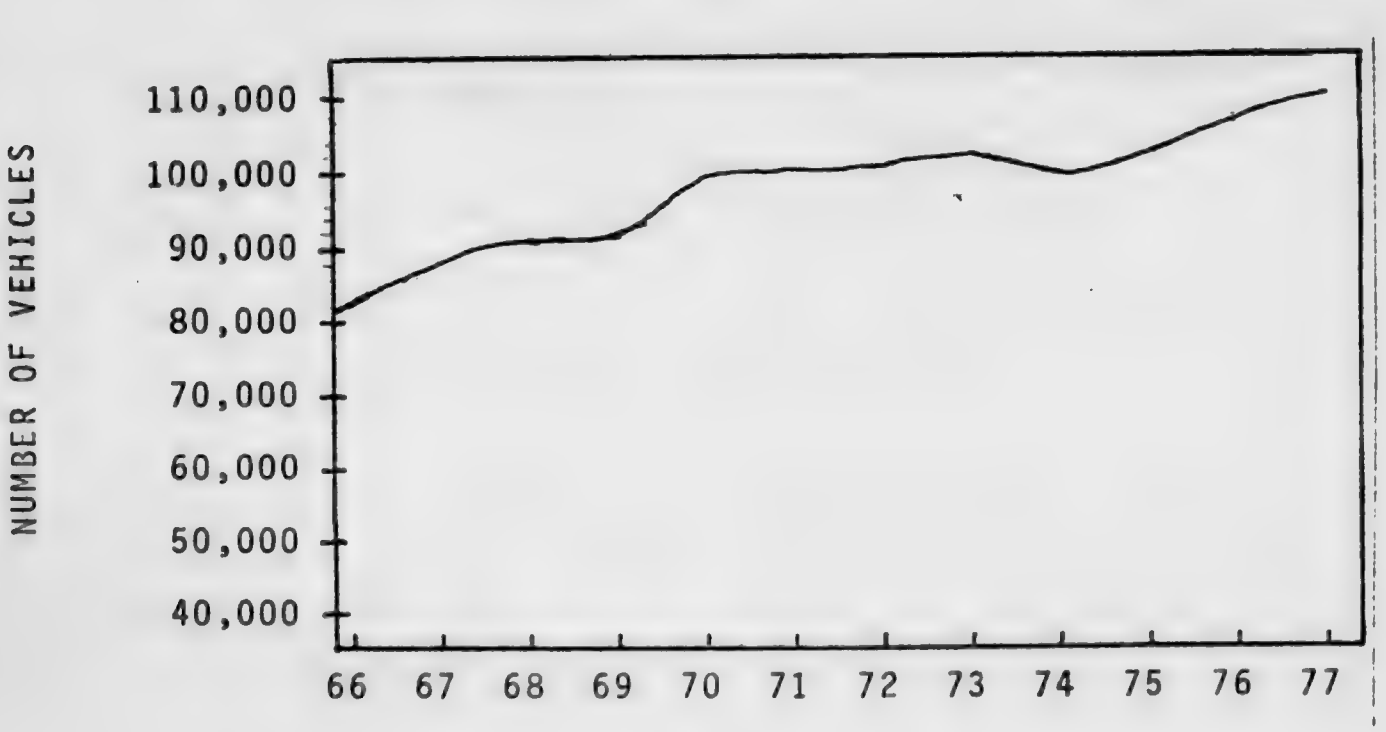


FIGURE 16 AVERAGE WEEKDAY VOLUME

b. Peak Hour Volumes - During the three month period April-June 1975, the average peak hour volume in the morning (westbound) was 3,750 vehicles per hour (VPH). Assuming the HOV lanes were not implemented, approximately 3,900 VPH were projected for 1977. This is compared to 4,025 VPH actually counted in 1977 (Figure 17)--3,845 VPH in the normal travel lanes and 180 VPH in the HOV lane. These volumes do not include buses. The difference of 125 VPH is only a three percent increase in volume; however, when converted to persons per hour (PPH), the increase is more significant. As shown in Table 2, the Banfield is carrying ten percent more people with the HOV lane than was projected without. The Table also shows that the HOV lane is carrying nearly 20 percent of the people in less than five percent of the vehicles.

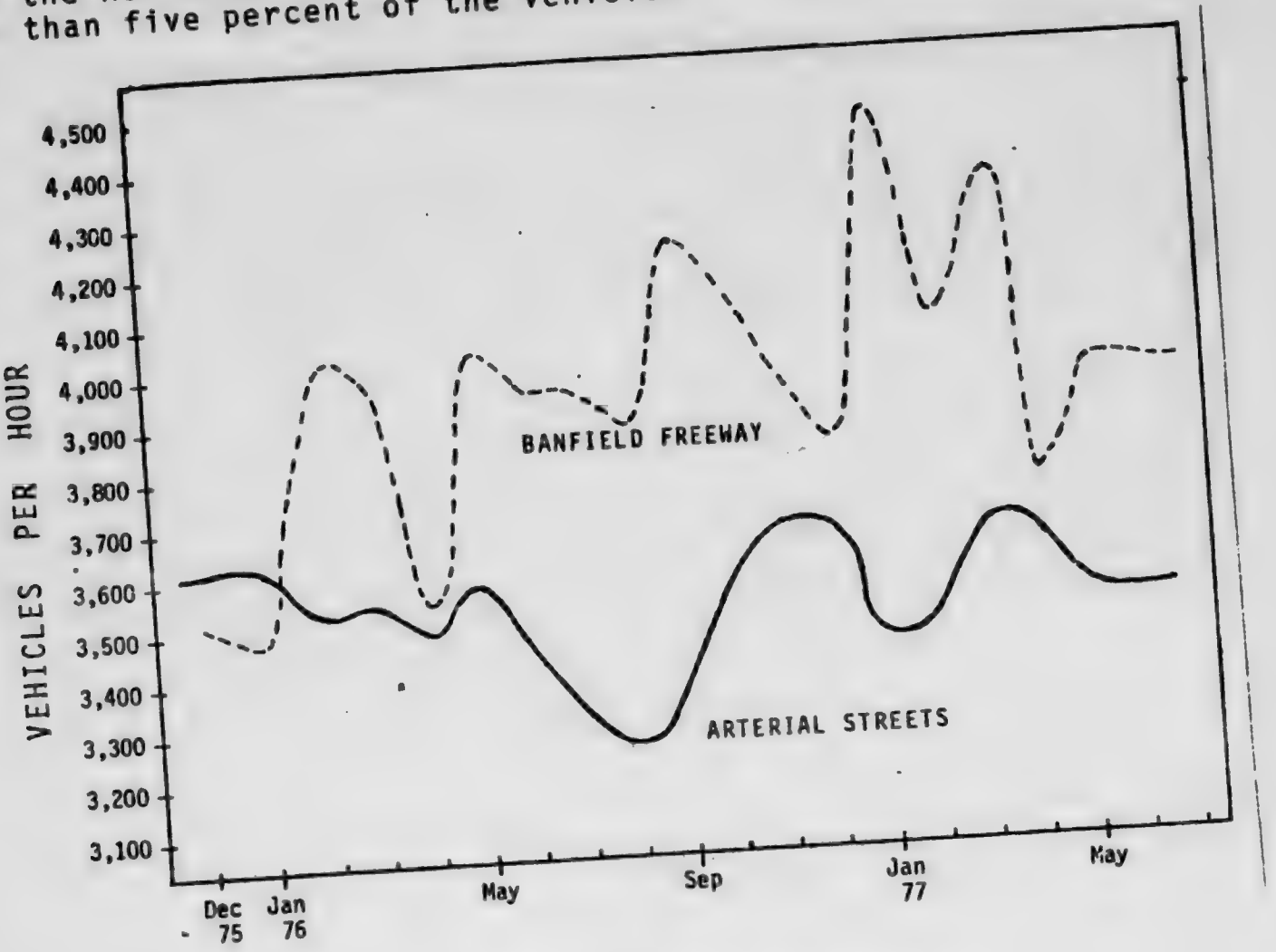


FIGURE 17 WESTBOUND AM PEAK HOUR VOLUMES

Table 2 shows 5,620 persons are being carried in 4,045 vehicles during the AM peak hour. Without the HOV lane, it is expected that 4,300 vehicles (5,620 - 400)/1.217 plus ten buses would be needed to carry the same number of persons. Since the freeway would carry 3,910 VPH, the other 390 VPH would be forced onto city streets during the AM (7:00-8:00) peak hour. This is nearly equivalent to one lane of traffic on a city street.

TABLE 2

WESTBOUND AM PEAK HOUR VOLUMES, BANFIELD FREEWAY
HOV LANES OPEN vs. NO HOV LANES

Vehicles Per Hour	CONDITION (1977) No HOV Lane	HOV Lane Open
Non-HOV	3,900	3,845
HOV	-	180
Buses	10	20
Total	3,910	4,045
Persons Per Hour		
Non-HOV		
Autos	4,750	4,545
Buses1/	400	-
HOV		
Autos	-	505
Buses2/	-	570
Total	5,150	5,620
Number of Persons Per Vehicle 3/		
Non-HOV	1.217	1.180
HOV		2.810

1/ Local buses only
2/ Banfield Flyer and local buses
3/ Does not include buses

c. Peak Hour Capacity - The maximum capacity of a freeway lane is about 2,100 VPH. Based upon this, at 47th Avenue the freeway could be expected to handle a maximum of 4,200 VPH westbound without an HOV lane. Using the occupancy rate existing on the Banfield before the HOV lanes of 1.217 and assuming an additional 400 people in buses, these 4,200 VPH could carry 5,500 persons per hour (PPH). With the HOV lane the potential PPH capacity nearly doubles (Table 3). To figure the capacity of the freeway with the HOV lane, some assumptions were made:

(1) An HOV lane capacity limit of 1,100 VPH is assumed to maintain space and speeds to still provide incentive to carpool and transit use.

(2) Preliminary estimates from the Banfield Transitway Study indicate that 100 buses is the practical maximum that could be considered for the HOV lane.

(3) The buses would carry an average of 28.5 riders per bus for a total of 2,850 PPH.

(4) Each bus would take capacity from the HOV lane equal to two carpools. This allows 900 carpools to operate in the HOV lane with the buses.

(5) Occupancy rate of vehicles in the HOV lane (other than buses) to be 2.8. This figure is less than three people because it includes violators.

The carpool PPH would then be 900 vehicles X 2.8 occupancy = 2,520 added to the bus PPH of 2,850 equals a total HOV lane capacity of 5,370 PPH.

TABLE 3

PEAK HOUR CAPACITY, BANFIELD FREEWAY
HOV LANES OPEN vs. NO HOV LANES

Vehicle Capacity	CONDITION (1977) No HOV Lane	HOV Lane Open1/
Non-HOV	4,200	4,200
HOV	-	1,000 2/
Total	4,200	5,200
Person Capacity		
Non-HOV	5,511 3/	5,511 3/
HOV	-	5,370 4/
Total	5,511	10,881

1/ Buses and carpools
2/ 900 carpools, 100 buses (one bus equivalent to two cars)
3/ Car occupancy factor of 1.217 plus 400 bus riders
4/ Car occupancy factors of 2.8 (includes violators) plus assume 28.5 riders per bus.

3.2 Average Peak Hour Speeds

The average westbound vehicle travel speed in 1975 for the Banfield was approximately 38 MPH (61.6km/h). In 1977, under the HOV lane operations, it was 37.9 MPH (61.0km/h) in the non-HOV lanes and 51.5 (82.9km/h) in the HOV lane. The average speed for all vehicles in all lanes is 38.4 MPH (61.8km/h). Without the HOV lane it is estimated the average travel speed in 1977 would have been 37.3 MPH (60.0km/h). Thus, the average peak hour speed has increased one mile per hour(1.6 km/h) (Figure 18). However, when comparing the average travel speed for the entire pool of traffic now using the Banfield (5,620 PPH), a more significant overall improvement in travel speed is revealed (Table 4).

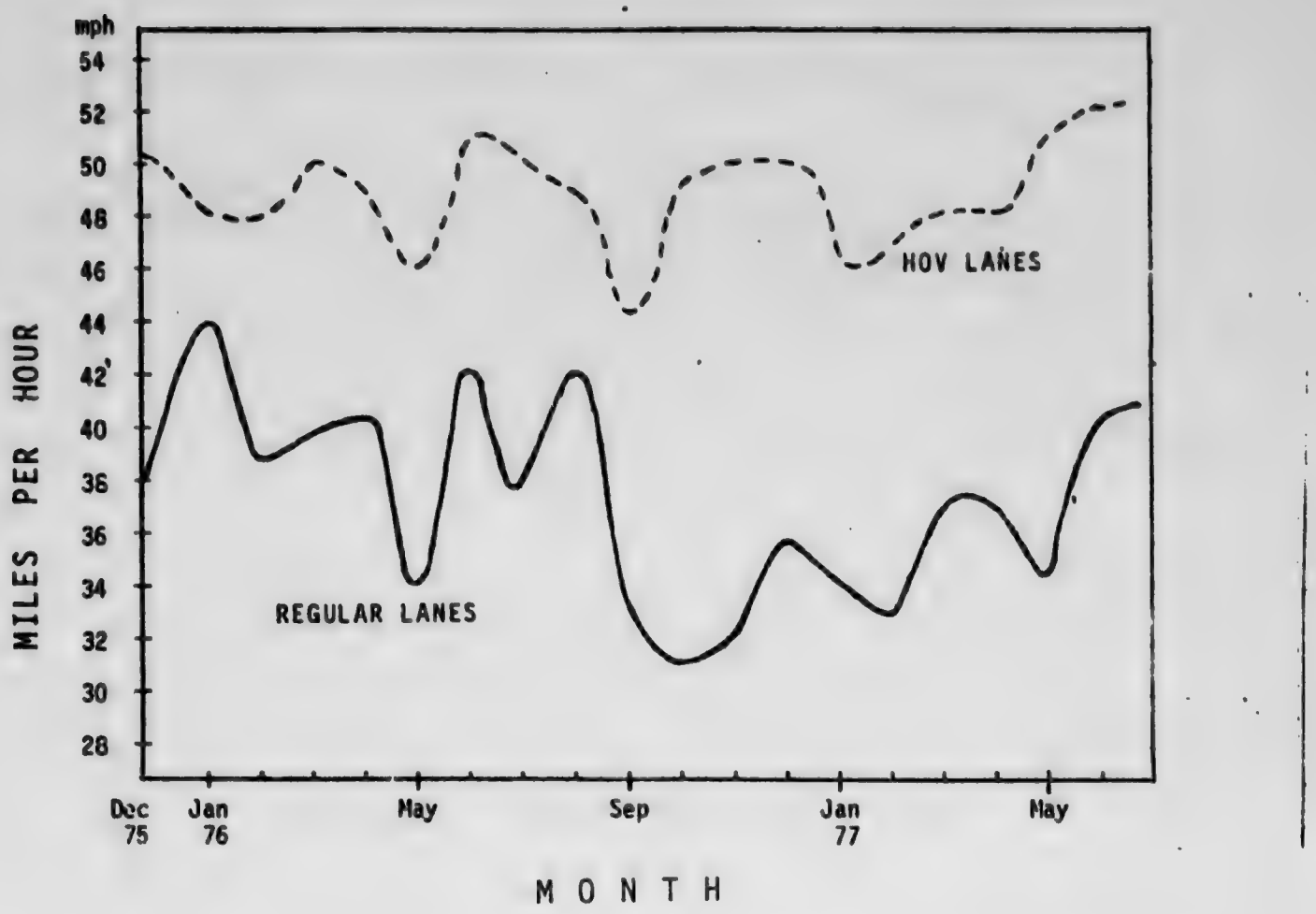


FIGURE 18 BANFIELD FREEWAY AM PEAK HOUR TRAVEL SPEEDS

The average vehicular travel speed with the HOV lanes open is over 38 MPH (61.1km/h) for the 4,045 vehicles carrying 5,620 persons. This compared to 33 MPH (53km/h) expected for the 4,300 vehicles carrying 5,620 persons if the HOV lanes were not open.

3.3 Road User Benefits

a. Travel Time - in 1977, the average westbound travel time on the HOV lane was 3.88 minutes during the AM peak hour. For vehicles traveling in the other lanes, the travel time was 5.27 minutes. There was a savings of 1.39 minutes for those vehicles using the HOV lane.

If the HOV lanes were not open, the westbound average travel time per person or vehicle over the project section on the freeway would be 5.36 minutes. Those persons using the HOV lane are saving 1.48 minutes compared to conditions with no HOV lanes, a 28 percent savings.

TABLE 4

AM PEAK HOUR TRAVEL SPEEDS, BANFIELD FREEWAY
74th AVENUE - 21st AVENUE
HOV LANES OPEN vs. NO HOV LANES

	CONDITION (APRIL-JUNE 1977)			
	No HOV Lane			HOV Lanes
	Banfield Freeway	Arterial Streets	Total	Open
Vehicles Per Hour	3,910	390	4,300	4,045
Persons Per Hour				
Non-HOV	5,150	470	5,620	4,545
HOV	-	-	-	1,075
Average Travel Speed (MPH)				
Non-HOV	37.3	15.0		37.9
HOV	-	-		51.5
Average Travel Time (Minutes)				
Non-HOV	5.36	13.20		5.27
HOV	-	-		3.88
Person Hours of Travel				
Non-HOV	460	103	563	399
HOV	-	-	-	70
Average Person Travel Time (Minutes)	-	-	6.02	5.00
Average Vehicle Travel Speed	-	-	33.1	38.4

As shown in Table 4, the average travel time between 74th and 21st Avenues for the entire pool of 5,620 persons (on the freeway and arterial streets) would be 6.02 minutes if the HOV lanes were not open. With the HOV lanes open, the overall average travel time is 5.00 minutes per person, a 1.02 minutes savings (17 percent).

The vehicle hours of travel (VHT) by the 4,045 vehicles achieved with the HOV lanes open is 351, while under a no-HOV lane condition, total hourly travel for the 4,300 VPH would be 434 VHT. The 83 VHT saved during the AM peak hour would total approximately 20,750 VHT in one year. Based on an estimated average cost of $4.20 for one vehicle hour of travel, approximately $87,150 are saved in one year in travel time costs during the AM peak hour as a result of the HOV lanes.

b. Auto Operating Costs - Consequent to opening the HOV lanes, the reduction in automobile travel has resulted in decreased vehicle miles traveled (VMT) and out-of-pocket travel costs. According to the Bus Ridership Survey[1], a decrease of 675,000 VMT per year has resulted from the switch to transit. The Carpool Survey[2] indicates a reduction of approximately 605,425 VMT a year for those persons carpooling with three or more people. Therefore, a total reduction of 1,280,425 VMT per year can be credited to the HOV lanes.

The U.S. Department of Transportation determined the average out-of-pocket operating costs to own and operate an automobile in 1976 at 7¢ per mile (1.6km/h). This includes oil, gas, routine maintenance and taxes. Therefore, considering the 1,280,425 VMT total reduction in auto travel, motorists are saving $89,629 per year.

c. Fuel Consumption - (Refer to Section 8.0)

3.4 Banfield Freeway Occupancy Rates

The AM peak hour occupancy rate on the Banfield was 1.217 persons per vehicle prior to opening the HOV lanes. During the period April-June 1977, the average rate was 1.255 (rates do not include buses). Therefore, every 1,000 vehicles now carry 38 additional persons compared to before the HOV lanes opened - eliminating 25-30 automobiles. According to the Carpool Survey, 132 automobiles are no longer used for commuter travel during the AM peak hour as a result of the increase in capacity.

3.5 Comparison With Other Portland Area Freeways

Other freeways in the Portland area have shown a slight decline in car occupancy rates (Figure 19). Rates on both the Sunset Freeway (Hwy. 26) and Minnesota Freeway (I-5) have decreased one to two percent over the past year, compared to a four percent increase on the Banfield Freeway (excluding buses). Table 5 shows the rates for all three freeways during the morning peak hour.

3.6 Comparison of Truck Counts

Peak hour truck counts on the Banfield for the first six months of 1977 increased 15 percent over peak hour truck counts of the first six months of 1976. The peak hour truck counts on arterial streets of Burnside and Sandy for the first six months of 1977 increased by eight percent over peak hour truck counts of the first six months in 1976. Under the monitoring procedures used, a truck is a vehicle with a load carrying capacity of 2,000 lbs. (900kgs) or greater.

The significant increase in the number of trucks on the Banfield is considerably greater than the approximate six percent increase in other vehicles using the freeway during this same monitoring period. This additional truck increase corresponds to the general statewide increase in the ratio of trucks to other vehicles that has been steadily climbing since 1972.

[1]Bus Ridership Survey (see Appendix E)

[2]Carpool Survey (see Appendix E)

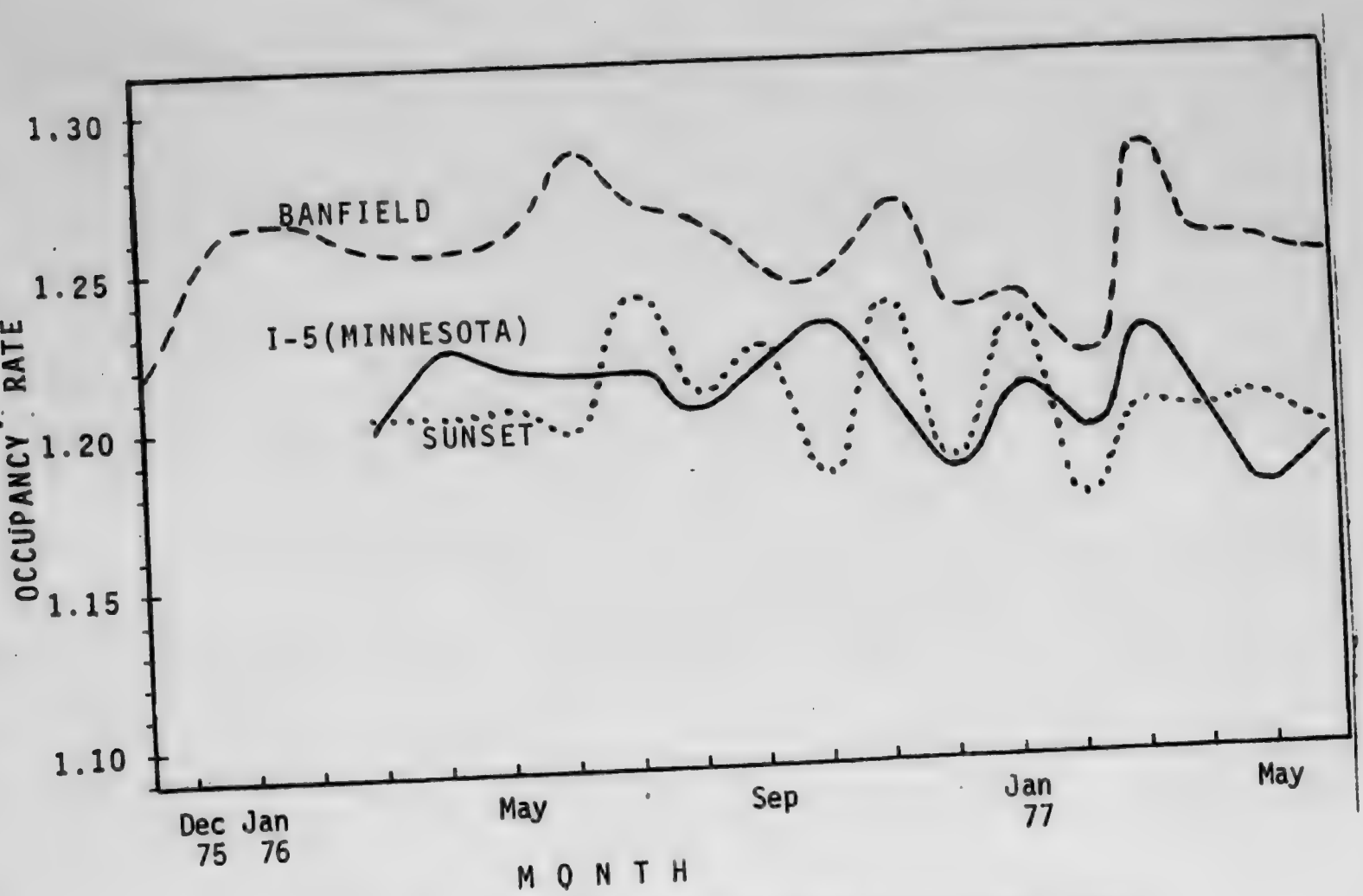


FIGURE 19 AVERAGE AM PEAK HOUR OCCUPANCY RATE

TABLE 5

CAR OCCUPANCY RATES, AM PEAK HOUR
BANFIELD FREEWAY vs. SUNSET AND MINNESOTA FREEWAYS

CONDITION	BANFIELD	SUNSET	MINNESOTA
Nov - Dec 1975	1.217	-	-
April-June 1976	-	1.203	1.222
April-June 1977	1.255	1.191	1.201
Percent Change	+3	-1	-2

4.0 ANALYSIS OF MODAL SHIFTS

One way to move more people on a highway that is already operating at capacity is to increase the number of occupants per vehicle. This requires signficant changes in the commuting habits of many people. If the change is to be voluntary, the alternative must be attractive by offering advantages in travel costs, convenience and/or travel time.

The 1973 Banfield Traffic Survey revealed a strong potential for a successful high occupancy vehicle project[1]. The survey indicated that there was an average of only 1.22 persons per vehicle using the freeway. Almost 75 percent of the vehicles had only one occupant. Furthermore, large numbers of these vehicles had nearly identical origins and destinations during the same hours. It was apparent that many of these people could be sharing rides, and in doing so, decrease congestion and increase the person carrying capacity of the Banfield. Responding to this potential, the HOV lane project was conceived, and the objective of providing carpooling and bus-use incentives in the Banfield corridor was established.

The Tri-County Metropolitan Transit District (Tri-Met) provided strong support for the HOV lane project because they could offer not only a cost savings, but a demonstratable time savings to commuters using the special lanes. At the time, Tri-Met was in the midst of adding several new park-and-ride stations in east Multnomah County and planned to have express buses connect these stations with the downtown core area of Portland. By using the HOV lanes, an express bus would be time competetive with the non-carpool vehicle's travel time from east county to the CBD. In addition, an intensive marketing program proposed by Tri-Met would serve to encourage the formation of carpools to share in the time and money savings afforded to transit by the HOV lanes.

Following the implementation of the HOV lanes, an increase in both transit ridership and number of carpools has occurred with transit ridership showing the larger increase.

4.1 Transit Ridership

Tri-Met instituted a fleet of express buses called "Banfield Flyers" to use the HOV lane to provide express service between the east county park-and-ride stations and the CBD. Two district lines were put into operation: Line #90 which runs from Mall 205 (a shopping center adjacent to the I-205 Freeway corridor) to the downtown area, and Line #91 operating from the Multnomah Kennel Club in the city of Fairview (Figure 20).

[1] "1973 Banfield Traffic Survey" (see Appendix E)

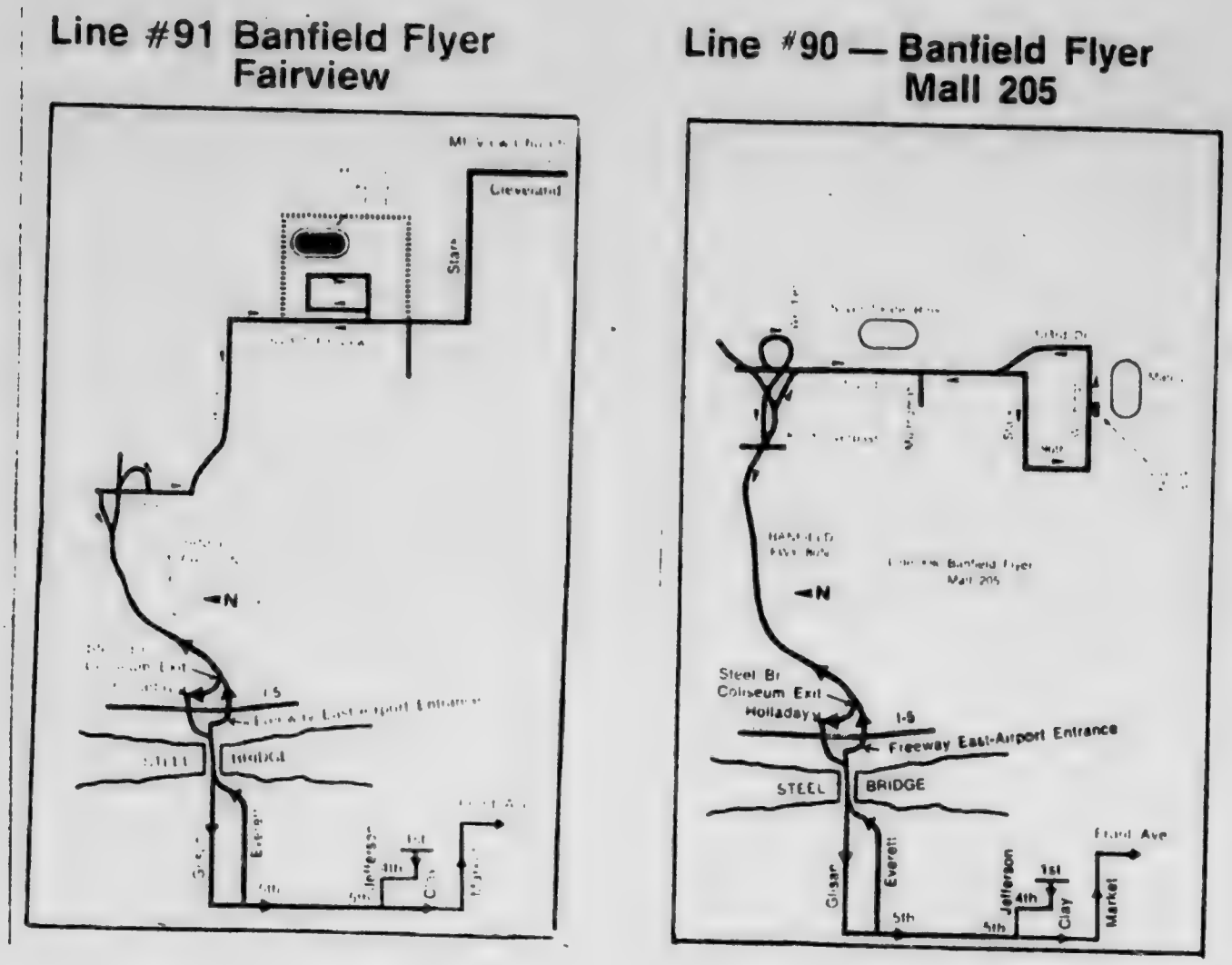


FIGURE 20 BANFIELD FLYER ROUTE MAPS

The Banfield Flyers operate only during the morning and evening peak hours running westbound in the AM and eastbound in the PM (Figure 21). In a case where a patron has to return to the park-and-ride station during the day, all stations are served by regularly scheduled buses that operate on arterial streets instead of the Banfield Freeway. Once the Flyers enter the Banfield, they run express to the CBD using the HOV lanes enroute.

Ridership on the Banfield Flyers has grown from 300 patrons per day in January 1976 to 633 in June 1977 (Figure 22). A five-cent fare increase did not have a measureable effect on ridership; however, several minor declines and increases can be noted. The small dip in December 1976 may be attributed to the Christmas Holidays, while the small increase in January may be a result of a period of icy weather which encouraged commuters to take the transit rather than endure poor driving conditions. The introduction of several new park-and-ride stations in the Fall of 1977 is expected to contribute to a steady increase in Banfield ridership.

Line #91 Banfield Flyer Fairview

Peak Hour Express Service From Mt. View Church & Multnomah Kennel Club To Portland City Center

WEEKDAYS

Effective June 13, 1977

Mt. View Church	Mult. Kennel Club	205th & Halsey	181st & Halsey	5th & Oak	4th & Market
—	6:50	6:52	6:54	7:15	7:25
—	6:55	6:57	6:59	7:20	7:30
—	7:13	7:15	7:17	7:38	7:48
7:12	7:17	7:19	7:21	7:42	7:52
—	7:22	7:24	7:26	7:47	7:57
7:40	7:45	7:47	7:49	8:10	8:20
—	7:50	7:52	7:54	8:15	8:25

Peak Hour Express Service From Portland City Center To Multnomah Kennel Club & Mt. View Church

WEEKDAYS

Effective June 13, 1977

1st & Clay	5th & Jefferson	181st & Halsey	205th & Halsey	Mult. Kennel Club	Mt. View Church
4:39	4:40	5:01	5:03	5:05	—
4:44	4:45	5:06	5:08	5:10	5:20
4:54	4:55	5:16	5:18	5:20	—
5:04	5:05	5:26	5:28	5:30	—
5:09	5:10	5:31	5:33	5:35	—
5:14	5:15	5:36	5:38	5:40	5:50
5:34	5:35	5:56	5:58	6:00	—

The Following Legal Holidays will apply: New Year's Day, Memorial Day, 4th of July, Labor Day, Thanksgiving and Christmas.

NO SATURDAY, SUNDAY, OR HOLIDAY SCHEDULE

SUBJECT TO CHANGE WITHOUT NOTICE

TRI-MET

Line #90 — Banfield Flyer Mall 205

Peak Hour Express Service From Mall 205 To Portland City Center

WEEKDAYS

Effective June 13, 1977

Mall 205 97th & Wash	Silver Skate Rink	5th & Oak	4th & Market
7:00	7:05	7:20	7:30
7:20	7:25	7:40	7:50
7:55	8:00	8:15	8:25

Peak Hour Express Service From Portland City Center To Mall 205

WEEKDAYS

Effective June 13, 1977

1st & Clay	5th & Jefferson	Silver Skate Rink	Mall 205 97th & Wash.
4:39	4:40	5:00	5:05
4:54	4:55	5:15	5:20
5:04	5:05	5:25	5:30

The Following Legal Holidays will apply: New Year's Day, Memorial Day, 4th of July, Labor Day, Thanksgiving and Christmas.

NO SATURDAY, SUNDAY, OR HOLIDAY SCHEDULE

SUBJECT TO CHANGE WITHOUT NOTICE

FIGURE 21 BANFIELD FLYER SCHEDULES

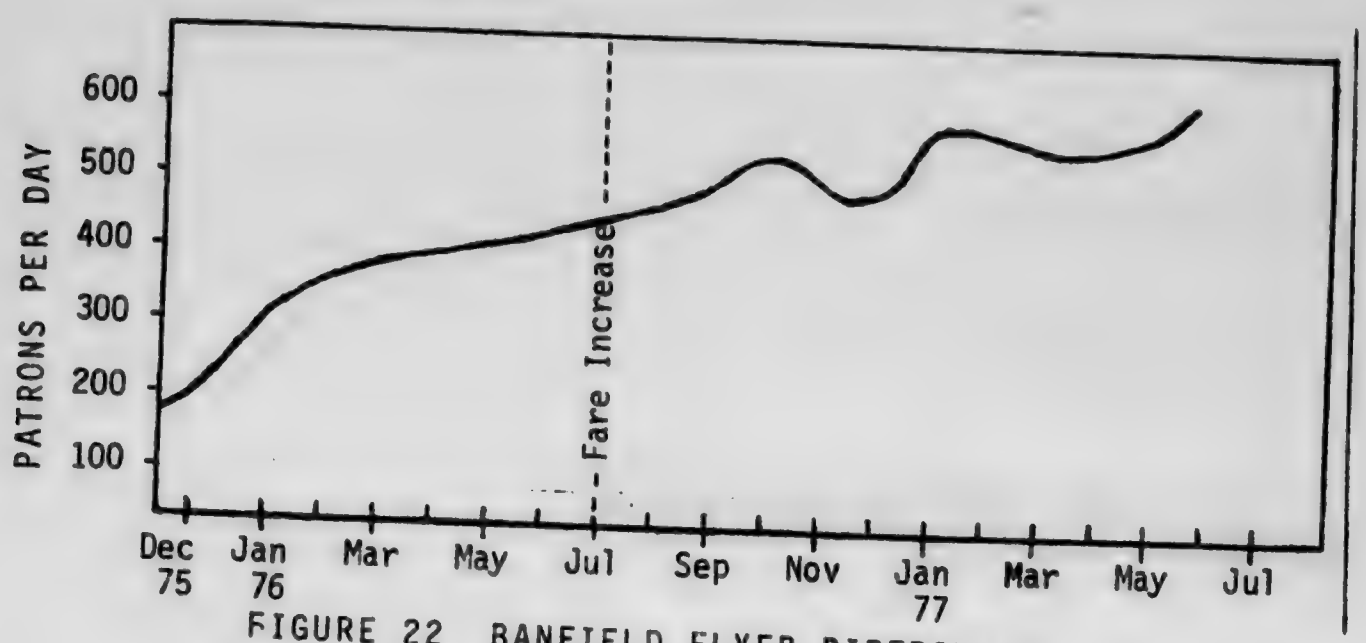


FIGURE 22 BANFIELD FLYER RIDERSHIP

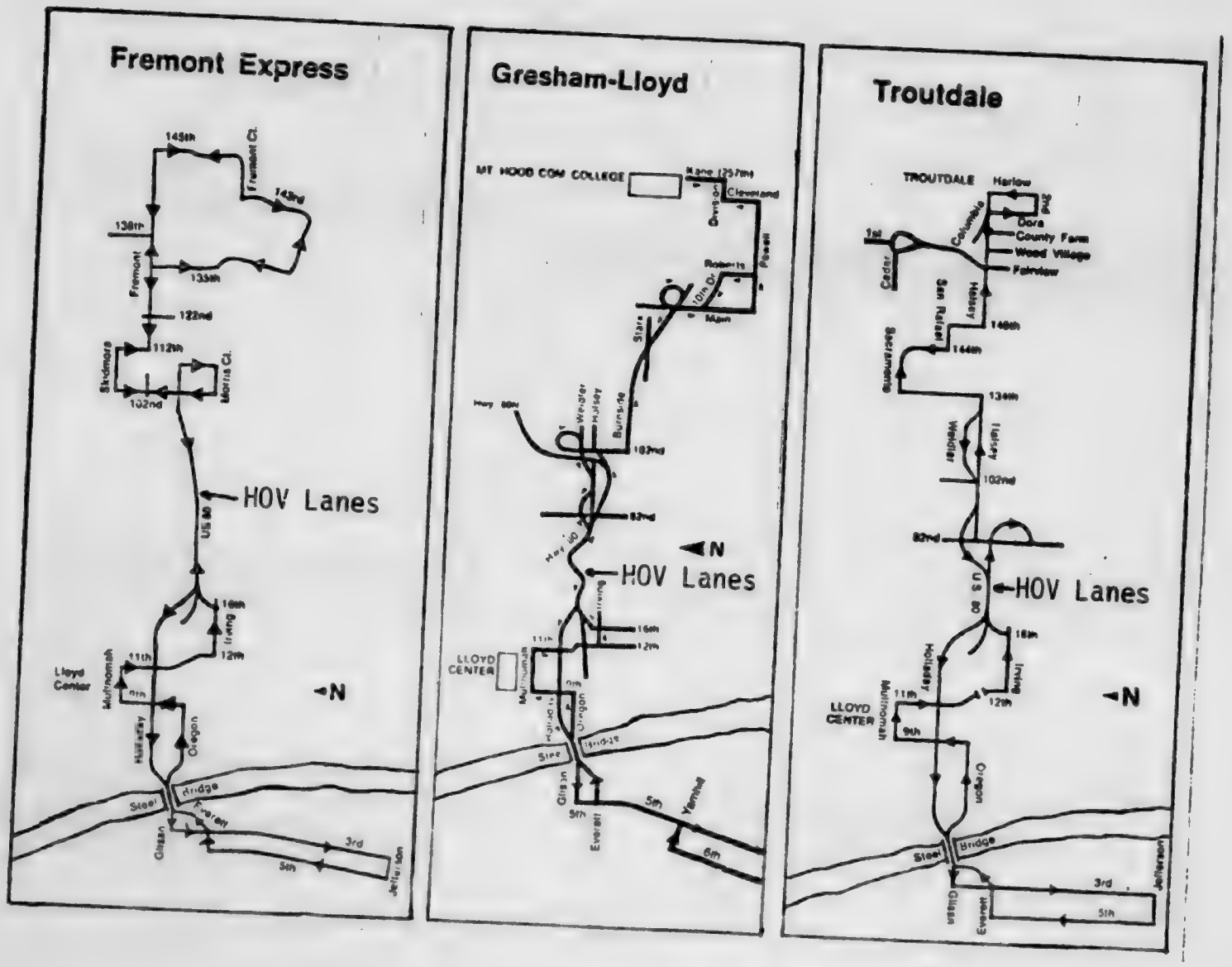


FIGURE 23 BANFIELD BUS ROUTES

TABLE 6 HOV LANE BUS SCHEDULES*

WESTBOUND (6:30-9:30 AM)		EASTBOUND (3:30-6:30 PM)	
Approximate Time at 53rd Avenue	Bus Route	Approximate Time at 53rd Avenue	Bus Route
6:53	Gresham-Lloyd	3:56	Gresham-Lloyd
6:59	Fremont Express	3:58	Troutdale
7:04	Troutdale	4:00	Fremont Express
7:07	Banfield Flyer (Fairview)	4:21	Gresham-Lloyd
7:12	Banfield Flyer (Mall 205)	4:22	Troutdale
7:12	Banfield Flyer (Fairview)	4:35	Fremont Express
7:24	Fremont Express	4:41	Gresham-Lloyd
7:24	Troutdale	4:42	Troutdale
7:30	Banfield Flyer (Fairview)	4:48	Banfield Flyer (Fairview)
7:32	Banfield Flyer (Mall 205)	4:48	Banfield Flyer (Mall 205)
7:33	Gresham-Lloyd	4:53	Banfield Flyer (Fairview)
7:34	Banfield Flyer (Fairview)	4:57	Troutdale
7:37	Troutdale	5:00	Fremont Express
7:39	Banfield Flyer (Fairview)	5:03	Banfield Flyer (Fairview)
7:53	Gresham-Lloyd	5:03	Banfield Flyer (Mall 205)
7:55	Troutdale	5:06	Gresham-Lloyd
7:59	Fremont Express	5:13	Banfield Flyer (Fairview)
8:02	Banfield Flyer (Fairview)	5:13	Banfield Flyer (Mall 205)
8:07	Banfield Flyer (Fairview)	5:17	Troutdale
8:08	Banfield Flyer (Mall 205)	5:18	Banfield Flyer (Fairview)
8:09	Troutdale	5:23	Banfield Flyer (Fairview
8:13	Gresham-Lloyd	5:30	Fremont Express
8:29	Fremont Express	5:31	Gresham-Lloyd
8:34	Troutdale	5:42	Troutdale
8:38	Troutdale	5:43	Banfield Flyer (Fairview)
8:39	Fremont Express	6:00	Fremont Express
9:04	Troutdale	6:01	Gresham-Lloyd
9:23	Gresham-Lloyd	6:02	Troutdale
		6:27	Troutdale
		6:30	Fremont Express

* June 13, 1977 Schedules

In addition to the Banfield Flyer buses, three other lines use the HOV lanes as a part of their normal routes. Line #17, Fremont Express, enters the Banfield Freeway at 102nd Avenue and uses the HOV lane until it exists at the Lloyd Center where it uses arterial streets to the CBD. The Troutdale bus, Line #18, travels on city streets to the vicinity of 82nd Avenue where it enters the Banfield and uses the HOV lane to the Lloyd Center exit. A third line, #44 Gresham/Lloyd, also enters the Banfield at 82nd Avenue and exists at the Lloyd Center (Figure 23). The outbound runs also use the Banfield from the Lloyd Center area to the 82nd-102nd Avenue exits. There are several other bus lines that use the Banfield but they enter and exit before the HOV lane sections. Only the Banfield Flyers were monitored for ridership changes because it was felt that they offered the highest commuter-use incentive, made more use of the preferential lanes than other transit lines and would thus provide the best indication of project effectiveness in attracting transit users.

Combining all five bus routes, there are 58 buses operating in the HOV lane during restricted hours. The morning period (6:30-9:30 AM) has 28 buses scheduled while the evening period, (3:30-6:30 PM) has 30 buses scheduled (Table 6).

4.2 Carpooling

Carpooling has increased on the Banfield from 106 carpools in April 1975 during the AM and PM peak hours, to 518 carpools in June 1977. There was a rapid increase of 275 carpools shortly after the opening of the HOV lanes; and since June 1976, the number has stabilized at around 500 carpools daily during the peak rush periods. Of the total number of carpools on the Banfield, 72 percent were traveling in the HOV lanes at the 47th Avenue counting station. Due to the close proximity of the 58th Avenue on-ramp and the 42nd Avenue off-ramp, a number of AM westbound carpools were probably not counted in the HOV lane as they either did not have enough time to merge over to the HOV lane or had already left the HOV lane to exit. In addition, difficulties encountered by PM eastbound carpools attempting to merge over to the HOV lanes near 44th Avenue, and the close proximity of the 57th Avenue off-ramp prevented a number of eastbound carpools from entering the HOV lanes by the 47th Avenue counting station. Therefore, all carpools in all lanes, as well as carpools in the HOV lanes are plotted in Figure 24.

4.3 Banfield User Survey

Late in 1976 the Banfield Technical Advisory Committee (TAC) decided to conduct a major survey of Banfield users. The objective of the survey was to determine what factors influenced user travel mode, with the results being used to design marketing strategies and update the 1973 Banfield Traffic Study. The two major components of the survey, bus ridership and carpools, are treated separately in the following sections.

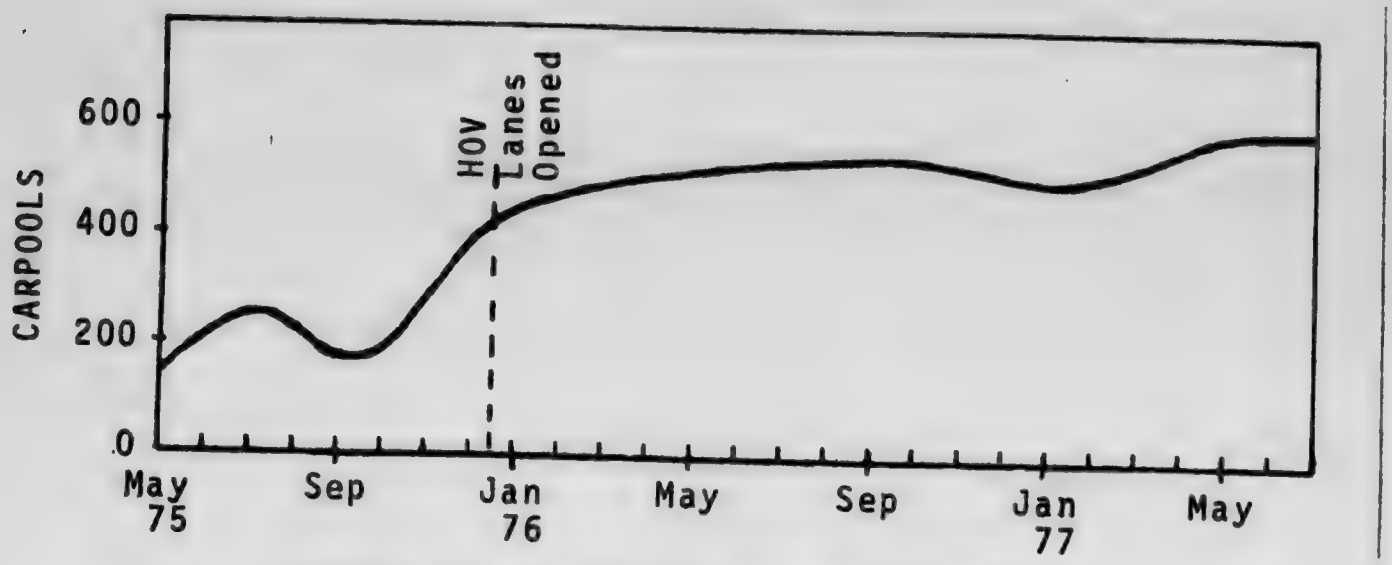


FIGURE 24 BANFIELD FREEWAY CARPOOLS DURING PEAK RUSH HOUR PERIODS

4.3.1 Transit Ridership Survey

An initial Banfield Flyer ridership survey was conducted in January of 1976, just after the HOV lanes opened. The survey was very limited in scope, consequently, the TAC determined that a more intensive survey was needed to gain an accurate demographic profile of the bus riders and the characteristics of their trips. That survey was conducted on 20 April 1977 and included all inbound riders boarding the Banfield Flyer Lines #90 and #91. A copy of the survey form is shown in Figure 25. Questionnaires were distributed by the bus driver and completed either on the bus or returned later by mail. A total of 310 questionnaires were distributed, and 249 or 80 percent, were returned.

The responses to the questionnaire are presented in the same order as they appeared on the survey form.

a. "Please identify the intersection or crossroads nearest your home."

Table 7 shows rider origin by boarding point. Figures 26 and 27 are census target maps for the study area with Banfield Flyer routes and locations of park-and-ride stations shown.

Riders of Line #90 are attracted from several census tracts in east Multnomah County near both the Mall 205 and Silver Skate park-and-ride lots. The tracts with the predominate number of riders include those bounded by the Banfield Freeway, 122nd Avenue, Division Street and 96th Avenue (Table 7, Figure 26).

BANFIELD FLYER SURVEY

SURVEY NUMBER

Boarding Bus Stop ☐

The Banfield High Occupancy Vehicle Lanes have been in operation since December, 1975. Tri-Met, CARPOOL, and the Oregon State Highway Division, co-sponsors of this program, are interested in knowing if your commuting habits have changed as the result of this experimental program. We would appreciate a few minutes of your time to answer the following questions.

A. Please identify the intersection or crossroads nearest to your home. ☐☐☐

Street _____ Nearest Cross Street _____ City

(Example: 223rd and Glisan Street)

B. Please identify the intersection closest to your place of work or school. ☐☐☐

_____

(Example: 5th and Yamhill)

☐

C. Please indicate your boarding point.

- ☐ Mt. View Christian Church
- ☐ Reynolds High School
- ☐ Mall 205
- ☐ Multnomah Kennel Club
- ☐ 181st and Halsey
- ☐ Silver Skate

D. How did you arrive at the Park and Ride lot today?

- ☐ 1. Car, drove alone.
- ☐ 2. Carpool driver.
- ☐ 3. Carpool Passenger.
- ☐ 4. Car, dropped off.
- ☐ 5. Bus.
- ☐ 6. Walked.
- ☐ 7. Other (please explain) _____ ☐

E. What time does you work shift begin? _____ ☐☐☐☐

F. What time does your work shift end? _____ ☐☐☐☐

G. When did you start using the Banfield Flyer service? _____ ☐☐☐

Month and Year

H. How did you get to work or school before you started to use the Banfield Flyer service?

- ☐ 1. Car, drove alone.
- ☐ 2. Two-person carpool.
- ☐ 3. Three-person carpool
- ☐ 4. Another bus, Line # _____ ☐☐
- ☐ 5. Other (please specify) _____ ☐

I. If you formerly traveled by car, which route did you normally use prior to the Banfield HOV lane?

- ☐ 1. Banfield.
- ☐ 2. Burnside.
- ☐ 3. Sandy.
- ☐ 4. Glisan.
- ☐ 5. Other route (please specify) _____ ☐

FIGURE 25 BANFIELD FLYER SURVEY FORM

J. Which factors had the greatest effect on your decision to ride the Banfield Flyer? Check as many as apply to you.

- ☐ 1. Cost savings.
- ☐ 2. Travel time savings.
- ☐ 3. Non-stop service.
- ☐ 4. Convenience.
- ☐ 5. No automobile available.
- ☐ 6. Other (please specify)

_____ ☐☐☐

K. How did you learn about the Banfield Flyer service? Please check as many as apply.

- ☐ 1. Newspaper.
- ☐ 2. Highway signs on the Banfield.
- ☐ 3. Posters.
- ☐ 4. Brochures.
- ☐ 5. Employer.
- ☐ 6. Radio.
- ☐ 7. TV.
- ☐ 8. Billboards.
- ☐ 9. Other (please specify)

☐☐☐

L. Which trips do you ride? ☐

- ☐ 1. A.M. only.
- ☐ 2. P.M. only.
- ☐ 3. Both.

M. How often do you ride the Banfield Flyer service? ☐

- ☐ 1. Every weekday.
- ☐ 2. About three to four days a week.
- ☐ 3. One or two days a week.
- ☐ 4. One to three days a month.
- ☐ 5. One to ten days a year.

N. How many automobiles are in operating condition at your residence? ☐

- ☐ 1. None.
- ☐ 2. One auto.
- ☐ 3. Two autos.
- ☐ 4. Three or more autos.

O. Which increased activity do you think would do the most to improve air quality in the Portland region?

- ☐ 1. Mass Transit.
- ☐ 2. Carpooling.
- ☐ 3. Vehicle emission inspection.
- ☐ 4. Traffic flow improvements.
- ☐ 5. Other (please specify)

_____ ☐

P. Please indicate your age. ☐

- ☐ 1. Under 20.
- ☐ 2. 20 to 44.
- ☐ 3. 45 to 64.
- ☐ 4. 65 or over.

Q. Please indicate your sex. ☐

- ☐ 1. Male.
- ☐ 2. Female.

R. Please indicate your annual family income (before taxes). ☐

- ☐ 1. Under $5,000
- ☐ 2. $5,000 to $9,999.
- ☐ 3. $10,000 to $14,999.
- ☐ 4. $15,000 or over.
- ☐ 5. Don't know.

S. Would you recommend any improvements for the Banfield Flyer service, or do you have any comments concerning the H.O.V. lanes?

_____

_____

FIGURE 25 cont.

	LINE #90			LINE #91				
	Mall 205	Silver Skate	Total	Mt. View	Reynolds	MKC	Halsey	Total
16.01	1	0	1	0	0	0	0	0
16.02	1	0	1	0	0	0	0	0
17.02	0	2	2	0	0	0	0	0
24.02	0	1	1	0	0	0	0	0
79.00	0	1	1	0	0	0	0	0
80.01	0	7	7	0	0	0	0	0
80.02	1	3	4	0	0	0	0	0
81.00	0	5	5	0	0	0	0	0
82.01	2	0	2	0	0	0	0	0
82.02	3	0	3	0	0	0	0	0
84.00	2	0	2	0	0	0	0	0
89.00	1	0	1	0	0	0	0	0
91.00	2	0	2	0	0	0	0	0
92.01	4	0	4	0	0	0	0	0
93.00	0	5	5	0	0	0	1	1
94.00	0	2	2	0	0	0	0	0
95.00	0	3	3	0	0	0	1	1
96.01	1	0	1	0	1	1	6	8
96.02	0	1	1	0	4	3	6	13
97.01	1	1	3	0	0	0	0	0
97.02	1	1	2	0	1	0	0	1
98.01	0	0	0	0	1	0	1	2
98.02	0	0	0	0	0	2	0	2
100.00	0	0	0	7	0	19	0	26
101.00	0	0	0	0	5	10	0	15
102.00	0	0	0	0	1	2	0	4
103.00	0	0	0	1	3	38	0	42
104.01	0	0	0	11	1	36	1	49
105.00	0	0	0	0	0	4	0	4
232.00	0	0	0	1	0	2	0	3
233.00	0	0	0	0	0	3	0	3
234.00	0	0	0	1	0	8	0	9
Total % of total	21 9%	32 13%	53 (22%)	21 9%	17 7%	129 54%	16 6%	183 (76%)

TABLE 7 ORIGIN ZONE BY BOARDING POINT

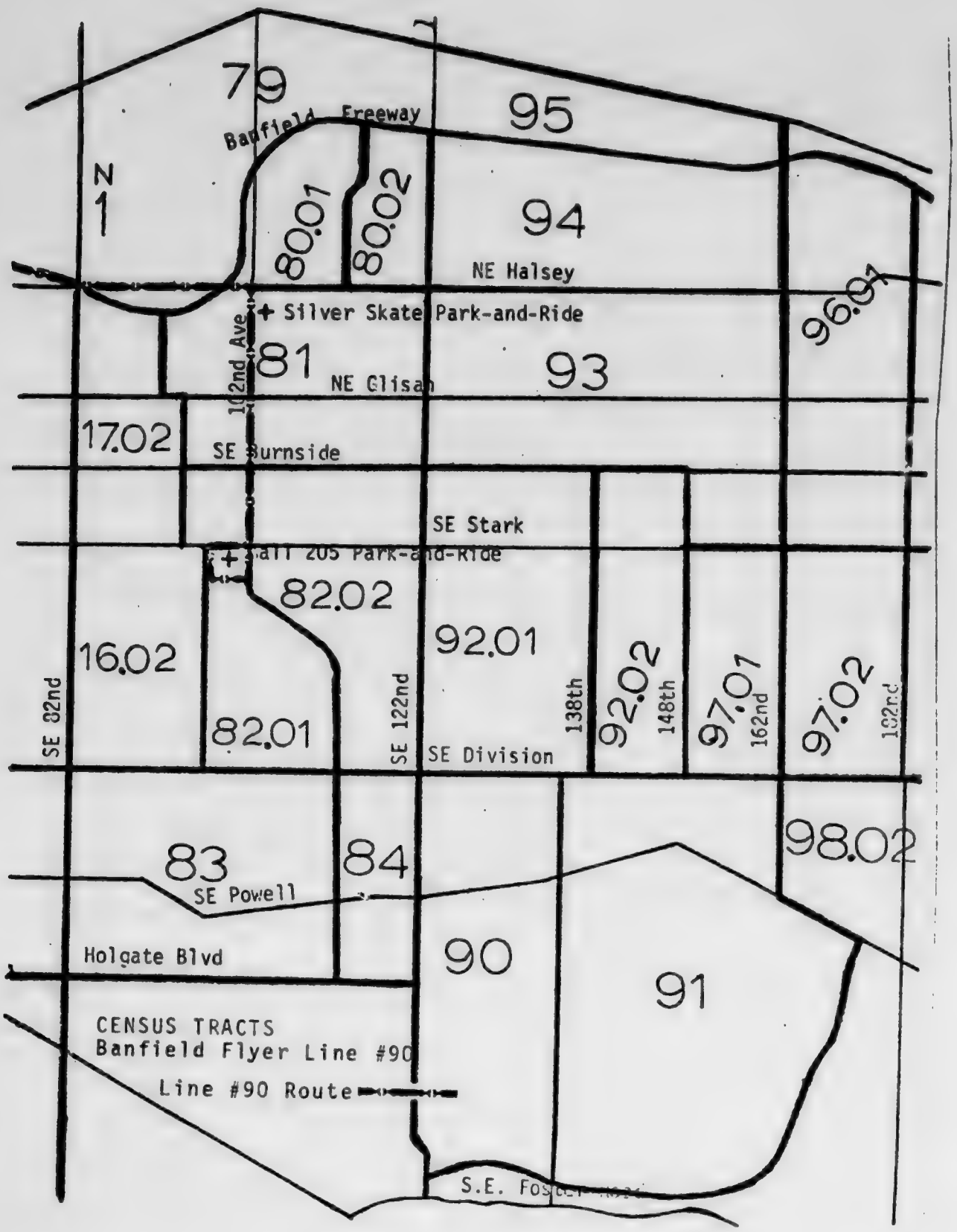


FIGURE 26 BUS RIDERSHIP CENSUS TRACTS - LINE #90

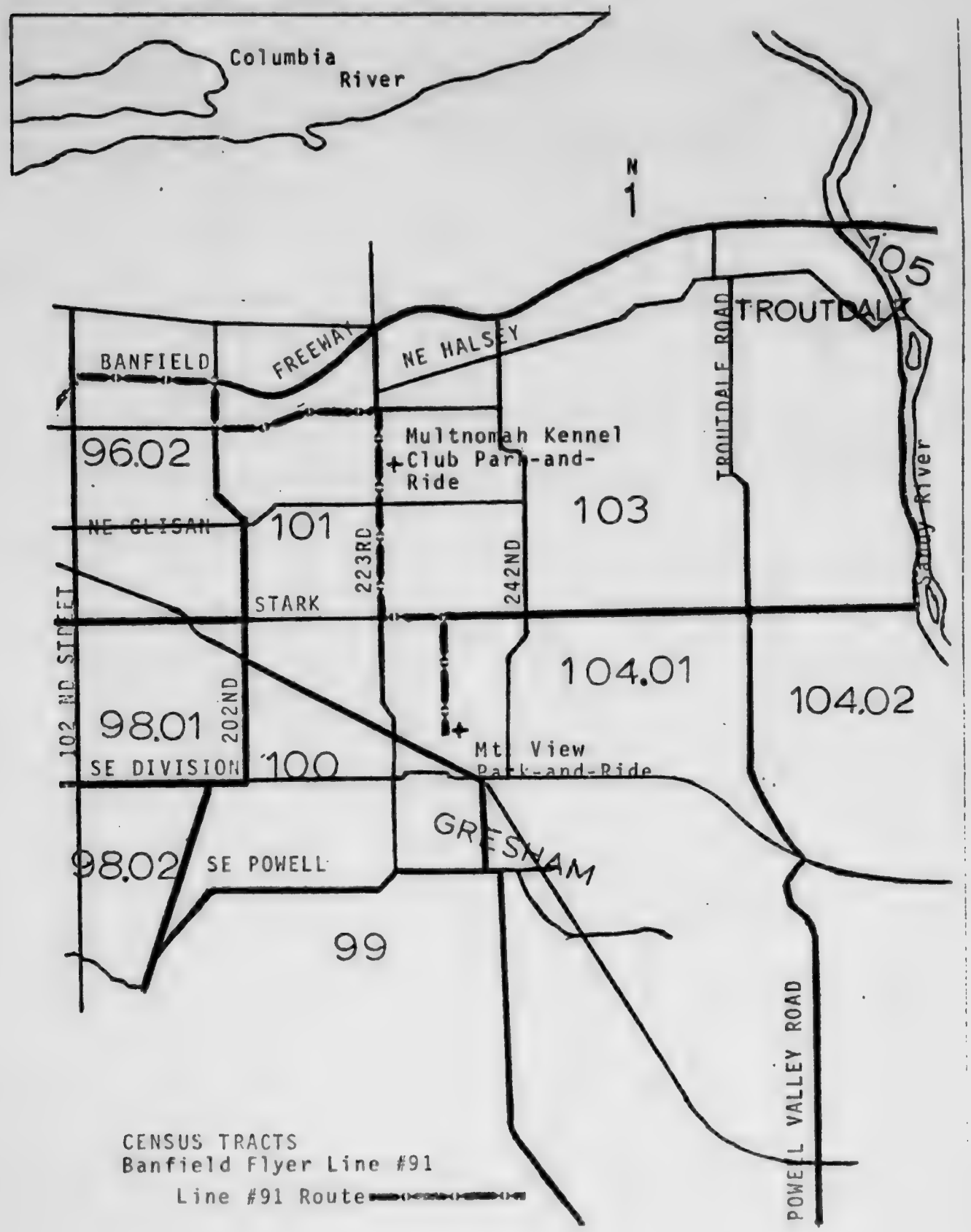


FIGURE 27 BUS RIDERSHIP CENSUS TRACTS - LINE #91

Riders of Line #91 are primarily attracted from census tracts 103 and 104.01 which account for 50% of this line's ridership. These tracts include the areas of Wood Village, Troutdale, and the eastern portions of Gresham (Table 7, Figure 27). Multnomah Kennel Club is the most highly used park-and-ride lot, serving 54 percent of all Banfield Flyer riders.

b. "Please identify the intersection closest to your place of work or school."

92 percent of the riders indicated destinations in the downtown areas of Portland. Of this 92 percent, almost 54 percent were headed for an eight by thirteen block area in the CBD. There were only a few destinations outside of the downtown area which meant that the riders had to transfer to another bus to complete the trip.

c. "How did you arrive at the park-and-ride lot today?"

About 55 percent of the riders drive alone to the park-and-ride lots, while 15 percent arrive in carpools. Another 14 percent are dropped off at the park-and-ride and 12 percent walk. These percentages differ slightly from the 1976 survey when 58 percent drove alone, 18 percent were dropped off, and 8 percent walked. Carpoolers were the same in both surveys at 15 percent.

d. "What time does your work shift begin?"

Ridership is concentrated around arrival times of 7:30 AM (14 percent), 8:00 AM (43 percent), and 8:30 AM (30 percent). This is significantly different from results of the 1976 survey. At that time ridership was fairly evenly distributed between four arrival times: 7:30 AM (19 percent), 7:45 AM (23 percent), 8:00 AM (29 percent), and 8:15 AM (24 percent). In the 1976 survey, only 4 percent indicated an 8:30 AM arrival time.

e. "What time does your work shift end?"

4:30 PM and 5:00 PM were the response given by 70 percent of those surveyed, with 45 percent departing from work at 5:00 PM.

f. "When did you start using the Banfield Flyer?"

A majority (58 percent) of the riders surveyed started using the service in 1976; 24 percent in the fourth quarter of that year. 15 percent indicated they had been riding the Flyer from the beginning of its service. About 26 percent began in 1977. New ridership appears to be increasing; 8 percent of the total respondents began riding the Flyers in the first 20 days of April, 1977.

g. "How did you get to work or school before you started to use the Banfield Flyer Service?"

44 percent of the respondents indicated they are former automobile drivers or passengers. This is nearly the same as the 40 percent in the 1976 survey. A total of 47 percent formerly rode another bus. This is down from 58 percent in 1976.

h. "If you used another bus which line did you take?"

The #18 Troutdale and #19 East Glisan/Division were the most frequently mentioned former bus routes.

i. "If you formerly traveled by car, which route did you normally use prior to the Banfield HOV lane?"

A majority of the riders (63 percent) who formerly traveled by car used the Banfield route (Table 8).

TABLE 8 PREVIOUS TRAVEL ROUTES

Route	Number of Respondents	Percent of former car riders or drivers
Banfield	100	63
Burnside	14	9
Sandy	4	2
Glisan	5	3
Other route	36	23
	159	100

j. "Which factors had the greatest effect on your decision to ride the Banfield Flyer? Check as many as apply to you."

Non-stop service and cost savings ranked nearly equal as the most significant factors in attracting persons to the Banfield Flyers; about 69 percent cited non-stop service and 67 percent indicated cost savings. Travel time savings was important to 56 percent of the riders. These results show dramatic differences from the 1976 survey. Cost savings rose significantly as a factor in using the Banfield service, from 46 percent in 1976 to 67 percent in 1977. Travel time and convenience have declined in significance from 72 percent to 56 percent and 56 percent to 32 percent respectively.

k. "How did you learn about the Banfield Flyer service? Please check as many as apply to you."

Brochures were cited by 33 percent of the riders as their source of information about the Banfield Flyer service. Newspapers were next with 32 percent. This is a significant change from 1976. At that time, brochures were not listed as one of the categories for response but newspapers were an influencing factor to 39 percent of the respondents. Most of the other sources of information also

decreased in importance from 1976; posters from 30 percent to 12 percent, radio from 28 percent to 8 percent, TV from 28 percent to 9 percent, and billboards from 28 percent to four percent. Only highway signs remained approximately the same, with 26 percent in 1976 and 24 percent in 1977. "Employers", which was not listed in 1976 reached four percent of the riders. The largest percentage (38 percent) indicated "other" sources -- this is little change from 1976 when 40 percent responded with this reason.

l. "Which trips do you ride?"

Nearly all (90 percent) of the riders use the service both to and from work or school.

m. "How often do you ride the Banfield Flyer service?"

About 82 percent of the respondents ride the Flyer every weekday and another 14 percent ride three or four days a week. Less than one percent indicate they are occasional riders.

n. "How many automobiles are in operating condition at your residence?"

The largest percentage of riders (44 percent) indicate they have two operating autos at their residence. Nearly all (96 percent) have at least one car.

o. "Which increased activity do you think would do the most to improve air quality in the Portland region?

Increased mass transit was selected by 82 percent of the respondents as the activity which would do the most to improve air quality. There was very little support for any of the other options.

p. "Please indicate your age."

A large majority (79 percent) of riders are between the ages of 20 and 44. Another 18 percent fall in the 45 to 65 age group. Only 3 percent are under 20 or over 64.

q. "Please indicate your sex."

The respondents were 61 percent female and 39 percent male.

r. "Please indicate your annual family income (before taxes)."

54 percent indicated an annual family income of $15,000 or more, 21 percent had annual income between $10,000 and $14,999, and only two percent had a family income under $5,000.

s. "Would you recommend any improvements for the Banfield Flyer service, or do you have any comments concerning the HOV lanes?"

The two major categories of comments were compliments on the service and suggestions on scheduling.

4.3.2 Carpool Survey

An automobile commuter survey of people using the Banfield Freeway during the AM peak period was conducted during the first week of November 1976. The survey sampled both users of the HOV lane and non-users in the normal lanes. The survey was designed by the Banfield TAC with the following objectives in mind.

a. Determine the origin and destination of people using the Banfield Freeway in order to detect any major changes that may have occurred since the 1973 traffic survey.

b. Determine user opinion of the HOV lane concept.

c. Discover reasons for resistance to carpooling or riding the bus by Banfield commuters.

d. Discover reasons why HOV lane users were prompted to form carpools.

e. Determine the mode and route carpoolers used prior to the opening of the HOV lanes.

f. Ascertain how people first learned about the HOV lanes so that the effectiveness of various publicity mediums could be evaluated.

g. Learn what people think would do the most good toward improving air quality.

Various methods for taking the survey were explored by the TAC. Some of the methods were unworkable from either logistical and/or safety standpoints, and had to be discarded. A mailout survey was selected and two different questionnaires were prepared, one for users of the HOV lane (carpoolers) and one for the non-users of the lane.

The license numbers of vehicles using the Banfield were randomly gathered during the first week in November 1976. Oregon State Highway Division personnel recorded the license numbers of vehicles heading west toward the Portland Central Business District between the hours of 7:00 and 9:00 AM on weekdays. Those vehicles were observed from the 47th Avenue structure and the 39th Avenue westbound emergency parking bay. 2,250 license numbers of non-HOV lane users were recorded from both the center and right lanes of the freeway, and 250 license numbers were recorded from the HOV lane of the freeway. These totals represented a sample size of 30 percent of all non-HOV lane users and 75 percent of all HOV users westbound on the Banfield between the hours of 7:00 and 9:00 AM. The license numbers were processed by the Oregon State Motor Vehicles Division through their computer which listed names and addresses of the vehicle owners. The non-HOV lane users' questionnaire was enclosed in an envelope with a return addressed, prepaid envelope. The HOV lane users received three colored questionnaires and three return envelopes. The carpool driver

who received these questionnaires was instructed to fill out the yellow questionnaire and give the two pink questionnaires to his passengers to be filled out and returned. All questionnaires were numbered and coded to identify which questionnnaires were returned. The mailout was made on 16 November 1976 and by the cut-off date of 13 January 1977, 837 non-user responses and 269 carpool and passenger responses had been received.

The questionnaire forms are shown in Figures 28 and 31. Returns from carpool drivers and passengers are discussed first.

4.3.2.1 Carpool Drivers and Passengers Responses

The results are reported in the same order as they appeared on the survey form.

1) "Where were you coming from?"

Referring to Table 9 and Figure 29, 25 percent of the drivers who responded indicated an origin west of 122nd Avenue in zones 5 and 6. 39 percent between 122nd Avenue and 202nd Avenue in zones 11 and 12, and 18 percent in zones 13 and 14. The area east of 282nd Avenue and on Highway 26 and I-80N generated 11 percent of the origins.

TABLE 9 ORIGINS AND DESTINATIONS - CARPOOL DRIVERS

Area No.	Number Origins	Number Destinations	Percent Origins	Percent Destinations
CBD	0	53	0.00	51.46
1	0	20	0.00	19.42
2	0	4	0.00	3.88
3	0	3	0.00	2.92
4	0	0	0.00	0.00
5	2	0	1.94	0.00
6	22	1	21.36	0.97
7	1	11	0.97	10.68
8	0	4	0.00	3.88
11	32	0	31.07	0.00
12	6	0	5.84	0.00
13	13	0	12.62	0.00
14	5	0	4.85	0.00
15	0	0	0.00	0.00
16	2	0	1.94	0.00
17	0	0	0.00	0.00
18	0	0	0.00	0.00
19	0	0	0.00	0.00
20	0	0	0.00	0.00
21	0	0	0.00	0.00
22	0	0	0.00	0.00
27	0	1	0.00	0.97
Hwy 26	10	0	9.71	0.00
I-5	0	1	0.00	0.97
I-80N	1	0	0.97	0.00
Misc.	4	4	3.88	3.88
No Response	5	1	4.85	0.97
TOTALS	103	103	100.00	100.00

PLEASE HELP TO PLAN FOR BETTER TRANSPORTATION AND CLEAN AIR

We are surveying the people who used the Banfield Freeway during the A.M. the first week in November. You can help us in our evaluation of the experimental High-Occupancy Vehicle (H.O.V.) Lane project by answering the following questions.

OREGON DEPARTMENT OF TRANSPORTATION

1 9

1. **WHERE WERE YOU COMING FROM?**

Number _____ Street _____ City _____ 11 13

2. **WHERE WERE YOU GOING TO?**

Number _____ Street _____ City _____ 15 17

3. **HOW DID YOU NORMALLY COMMUTE PRIOR TO USING THE BANFIELD H.O.V. LANE?**

Bus ☐ 19 Drove Alone ☐ 20 2-Person Carpool ☐ 21 3-or-more Person Carpool ☐ 22

4. **WHICH ROUTE DID YOU NORMALLY USE PRIOR TO THE BANFIELD H.O.V. LANE?**

Banfield ☐ 24 Sandy ☐ 25 Burnside ☐ 26 Glisan ☐ 27 Other ☐ 28 _____

5. **HOW DID YOU FIRST HEAR ABOUT BANFIELD H.O.V. LANES?**

Newspaper ☐ 30 Radio ☐ 31 Television ☐ 32 Employer ☐ 33 Brochures ☐ 34

Billboards ☐ 35 Signs on Banfield ☐ 36 Other ☐ 37 _____

6. **WHAT INCENTIVE CONTRIBUTED MOST TO THE FORMATION OF YOUR CARPOOL?**

Cost Savings ☐ 39 Time Savings ☐ 40 Convenience ☐ 41 Employer Incentives ☐ 42

Environmental Concerns ☐ 43 Other ☐ 44 _____

7. **WHICH INCREASED ACTIVITY DO YOU THINK WOULD DO THE MOST TO IMPROVE AIR QUALITY?**

Mass Transit ☐ 46 Carpooling ☐ 47 Vehicle Emission Inspection ☐ 48

Traffic Flow Improvements ☐ 49 Other Factor ☐ 50 _____

8. **CAN YOU RECOMMEND ANY IMPROVEMENTS TO, OR DO YOU HAVE ANY COMMENTS CONCERNING THE H.O.V. LANES?**

_____

_____

_____ 52

NO POSTAGE NEEDED

FIGURE 28 CARPOOL DRIVERS AND PASSENGERS SURVEY FORM

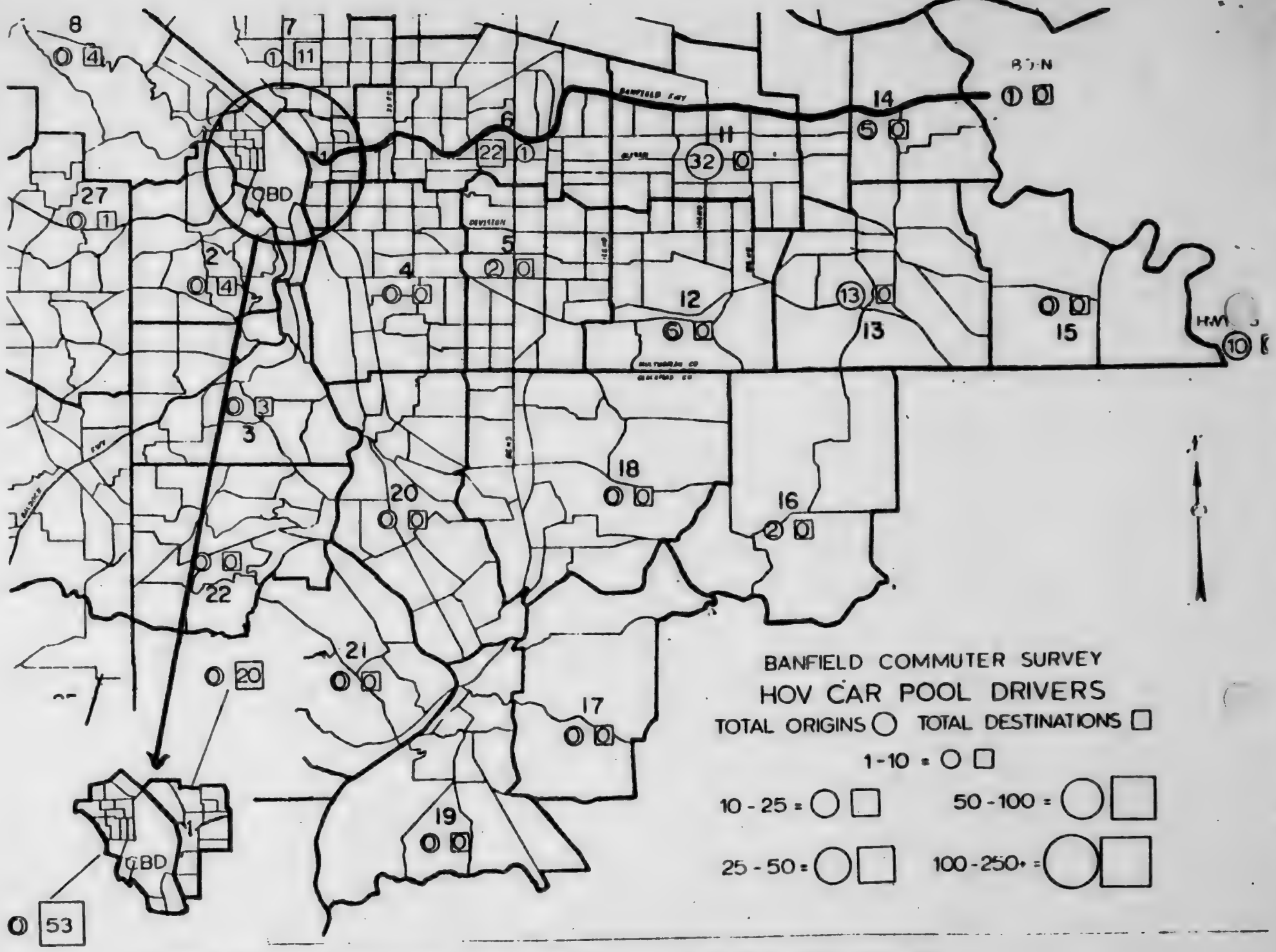


FIGURE 29 HOV CARPOOL DRIVERS - ORIGINS AND DESTINATIONS

The passenger responses (Table 10, Figure 30) indicated that 29 percent began their trips in zones five and six west of 122nd Avenue, 38 percent in zones 11 and 12 between 122nd and 202nd Avenues, 21 percent in zones 13 and 14. Nine percent originated east of 282nd Avenue and on Highways 26 and I-80N

TABLE 10 ORIGINS AND DESTINATIONS - CARPOOL PASSENGERS

Area No.	Number Origins	Number Destinations	Percent Origins	Percent Destinations
CBD	0	79	0.00	49.69
1	0	45	0.00	28.30
2	0	1	0.00	3.77
3	1	2	0.00	0.63
4	1	2	0.63	1.26
5	5	0	3.14	0.00
6	40	6	25.16	3.77
7	0	7	0.00	4.40
8	0	4	0.00	2.52
11	45	0	28.31	0.00
12	15	0	9.43	0.00
13	27	0	16.98	0.00
14	6	0	3.77	0.00
15	2	0	1.26	0.00
26	0	4	0.00	2.52
27	0	2	0.00	1.26
Hwy 26	13	0	8.17	0.00
I-5	0	0	0.00	0.00
I-80N	1	0	0.63	0.00
Misc.	2	3	1.26	1.88
No Response	2	0	1.26	0.00
	159	159	100.00	100.00

2) "Where were you going to?"

52 percent of the drivers were destined for the Central Business District. Zone 1 was the destination for 19 percent of the remaining drivers.

The Central Business District was the destination of 49 percent of the carpool passengers and 28 percent were bound for the Lloyd Center vicinity in zone 1.

3) "How did you normally commute prior to using the Banfield HOV lanes?"

Prior to the opening of the HOV lanes, carpool drivers were fairly equally divided into three categories -- they drove alone, were in a two-person carpool, or were in a three-person carpool (Table 11). The majority of carpool passengers indicated they either rode the bus or were in three-person carpools prior to the opening of

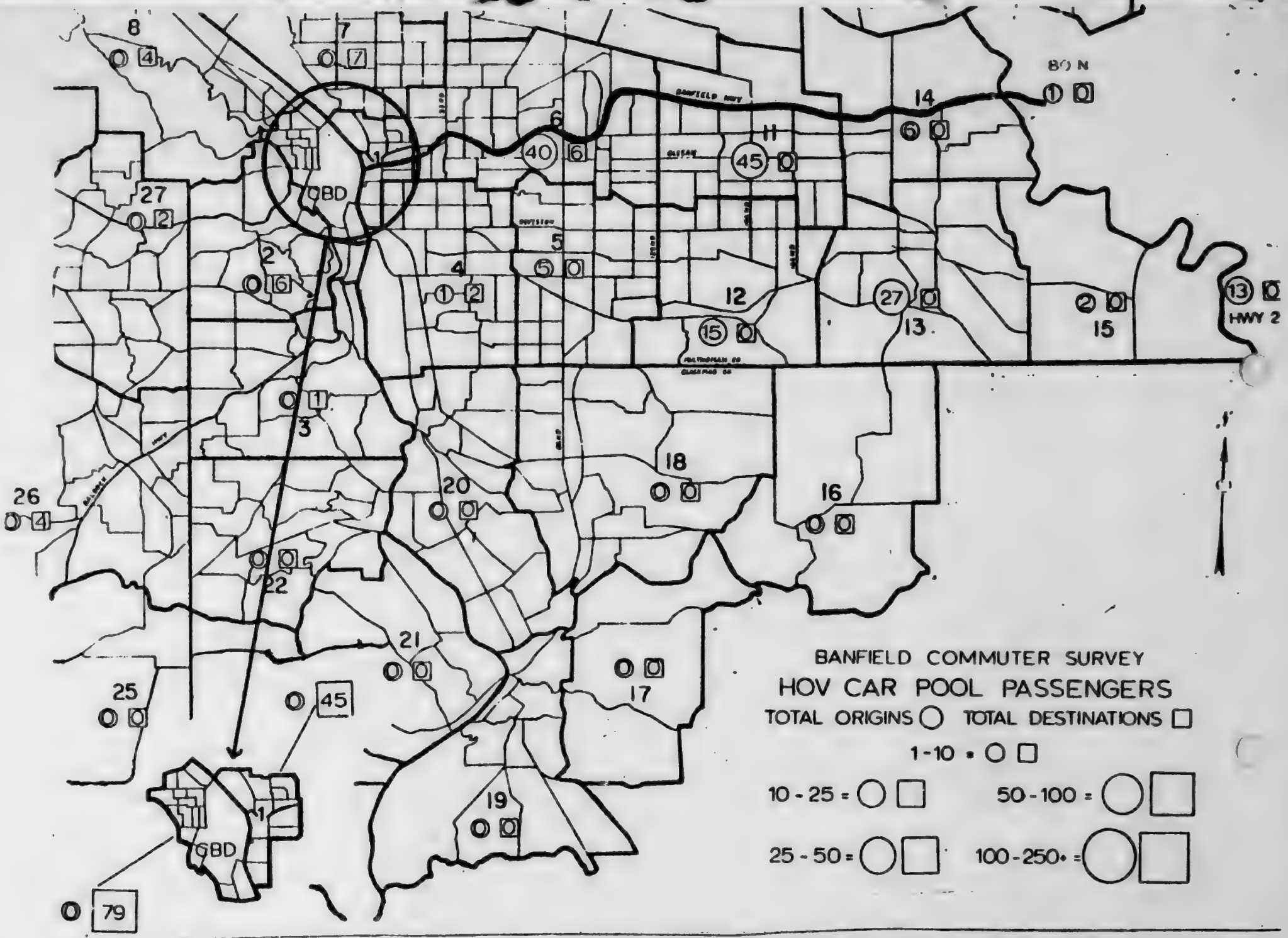


FIGURE 30 HOV CAR POOL PASSENGER - ORIGINS AND DESTINATIONS

the HOV lanes. The responses reveal that carpools obtain many of their passengers from former bus riders and carpoolers. However, 20 percent of the carpool passengers drove alone prior to forming a carpool in response to the HOV lane incentive.

TABLE 11 PRIOR COMMUTING HABITS

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Bus	4	3.74	45	26.96
Drove Alone	31	28.97	33	19.74
2-person carpool	35	32.71	36	21.56
3-person carpool	37	34.58	53	31.74
	107	100.00	167	100.00

4) "What route did you normally use prior to the Banfield HOV lanes?"

Most carpool drivers and passengers previously used the Banfield Freeway. Approximately 30 percent of both carpool drivers and passengers indicated they used the Banfield arterial streets prior to the opening of the HOV lanes.

5) "How did you first hear about the Banfield HOV lanes?"

Newspaper articles and advertising, and information signs along the Banfield were identified most often as the publicity medium which first informed people of the Banfield HOV lanes. Very few people heard about the project from their employer (Table 12).

TABLE 12 PUBLICITY MEDIUM

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Newspapers	51	29.31	77	30.43
Radio	21	12.07	33	13.04
Television	31	17.82	54	21.34
Employer	3	1.72	5	1.98
Brochures	11	6.32	15	5.94
Billboards	9	5.17	12	4.74
Signs on Banfield	41	23.57	50	19.76
Other	7	4.02	7	2.77
	174	100.00	253	100.00

6) "What incentive contributed to the formation of your carpool?"

Cost savings was the most mentioned incentive. Convenience was mentioned as a strong second to cost savings by the carpool passengers. Employer incentives and environmental concerns were mentioned the least (Table 13).

TABLE 13 CARPOOL INCENTIVES

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Cost Savings	50	36.50	77	34.84
Time Savings	35	25.55	38	17.20
Convenience	31	22.63	73	33.03
Employer Incentives	5	3.65	8	3.62
Environmental Concerns	12	8.76	16	7.24
Other	4	2.91	9	4.07
	137	100.00	221	100.00

7) "Which imcreased activity do you think would do the most to improve air quality?"

Traffic flow improvements and carpools were the most often named activities (Table 14).

TABLE 14 IMPROVING AIR QUALITY

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Mass Transit	24	18.75	57	28.93
Carpooling	34	26.56	54	27.41
Vehicle Emissions Inspection	15	11.72	20	10.15
Traffic Flow Improvements	40	31.25	52	26.40
Other Factors	15	11.72	14	7.11
	128	100.00	197	100.00

8) "Can you recommend any improvements to, or do you have any comments concerning the HOV lanes?"

There were 210 responses to the question. Most carpool users of the HOV lane commented that the HOV lanes should be opened to 2-person carpools. They criticized the design of the HOV lanes in regard to difficulties getting into and out of the preferential lanes. They also commented about the short length of the eastbound HOV lane, and the amount of illegal vehicles using the lanes. See Table 19 for a summary of the comments made on the returned survey form.

4.3.2.2 Non-HOV Lane User Responses

Figure 31 represents the survey form distributed to non-users of the HOV lanes. The response to these questions will follow the same order as on the survey form.

1) "Where were you coming from?"

The responses from non-HOV lane users (Figure 31, Table 15), indicates that 36 percent began their trip west of 122nd Avenue in zones 5 and 6, 34 percent originated between 122nd and 202nd Avenues in zones 11 and 12, and 17 percent originated between 202nd and 282nd Avenues in zones 13 and 14. The area east of 282nd Avenue on Highways 26 and I-80N generated 11 percent of the origins.

2) "Where were you going?"

52 percent were destined for the Central Business District, and 20 percent were bound for the Lloyd Center vicinity in zone 1.

3-5) "Are you aware of carpool matching service? Are you aware of the Banfield Flyer express buses? Do you desire information about carpool matching service and/or bus service?"

Over 50 percent of the non-HOV lane users were aware of the Tri-Met carpool matching service and the Banfield Flyer buses. About eight percent desired additional information about these services.

6) "What do you think is the major reason more people do not carpool?"

Inconvenience was named most often as the major reason people did not carpool. "Need car for work" was named as the next most often reason (Table 16).

We are surveyin[illegible]e people who used the Banfield Freeway during [illegible] A.M. the first week in November. You can help us in our evaluation of the experimental High-Occupancy Vehicle (H.O.V.) Lane project by answering the following questions.

OREGON DEPARTMENT OF TRANSPORTATION

1 9

1. WHERE WERE YOU COMING FROM?

Number _____ Street _____ City _____ 11 13

2. WHERE WERE YOU GOING TO?

Number _____ Street _____ City _____ 15 17

3. ARE YOU AWARE OF CARPOOL MATCHING SERVICE? Yes ☐ 19 No ☐ 20

4. ARE YOU AWARE OF BANFIELD FLYER EXPRESS BUSES? Yes ☐ 22 No ☐ 23
(These trips take only 25 minutes from Multnomah Kennel Club and only 20 minutes from Mall 205 to downtown.)

5. DO YOU DESIRE INFORMATION ABOUT THE FOLLOWING?

Carpool Matching Service ☐ 25 Bus Service ☐ 26

6. WHAT DO YOU THINK IS THE MAJOR REASON MORE PEOPLE DON'T CARPOOL?

No Personal Privacy ☐ 28 Inconvenient ☐ 29 Need Car for Work ☐ 30

Unreliable ☐ 31 Other Factor ☐ 32 _____

7. WHAT DO YOU THINK IS THE MAJOR REASON MORE PEOPLE DON'T RIDE THE BUS?

No Personal Privacy ☐ 34 Too Infrequent ☐ 35 Need Car for Work ☐ 36

Park and Ride Locations Inconvenient ☐ 37 Route Inconvenient ☐ 38

Too Slow ☐ 39 Other Factor ☐ 40 _____

8. WHICH INCREASED ACTIVITY DO YOU THINK WOULD DO THE MOST TO IMPROVE AIR QUALITY?

Mass Transit ☐ 42 Carpooling ☐ 43 Vehicle Emission Inspection ☐ 44

Traffic Flow Improvements ☐ 45 Other Factor ☐ 46 _____

9. CAN YOU RECOMMEND ANY IMPROVEMENTS TO, OR DO YOU HAVE ANY COMMENTS CONCERNING THE H.O.V. LANES?

_____

_____

_____ 48

NO POSTAGE NEEDED

FIGURE 31 CARPOOL SURVEY FORM - NON-HOV LANE USERS

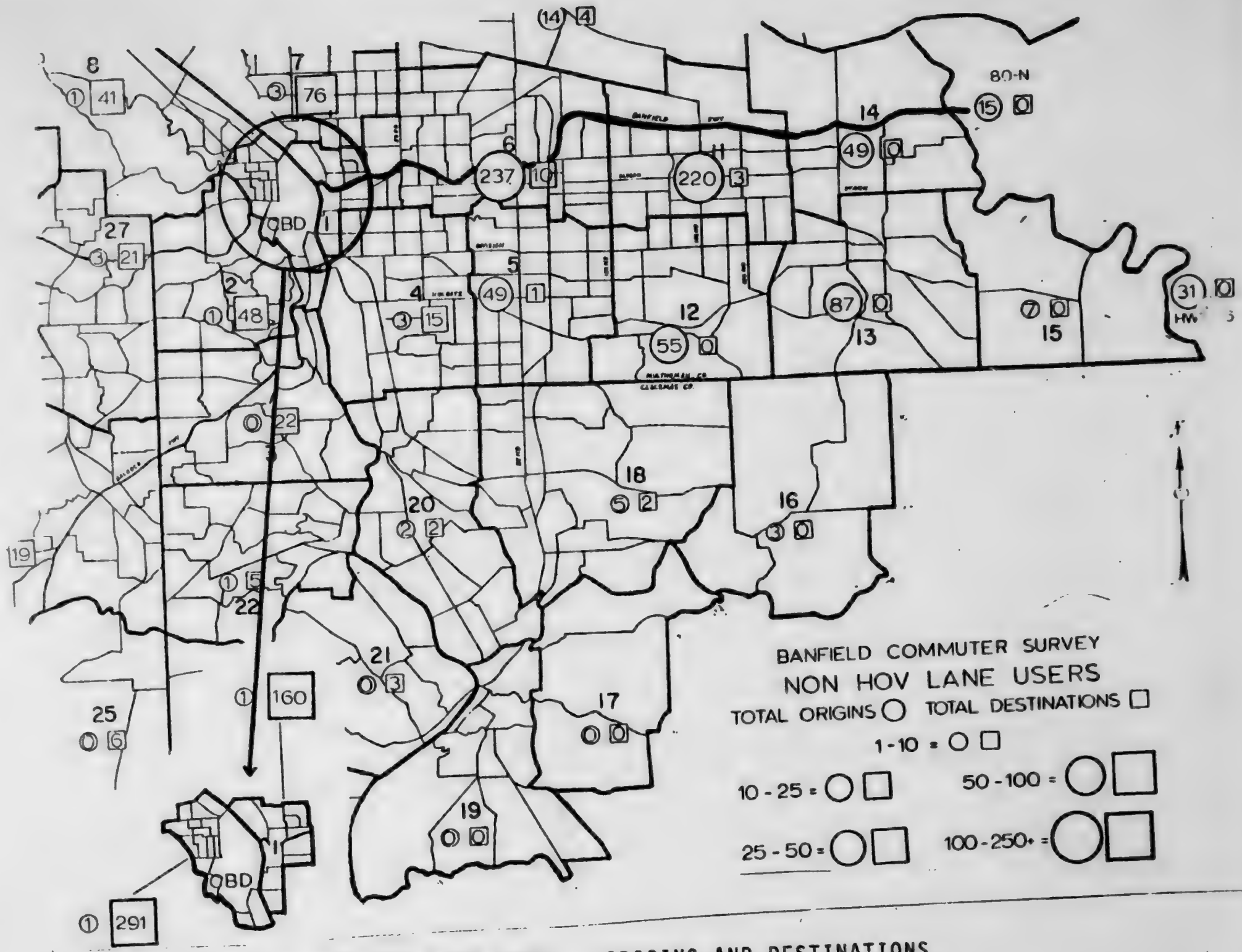


FIGURE 32 NON-HOV LANE USERS - ORIGINS AND DESTINATIONS

TABLE 15 ORIGINS AND DESTINATIONS - NON-HOV LANE USERS

Area No.	Number Origins	Number Destinations	Percent Origins	Percent Destinations
CBD	1	291	0.12	36.10
1	1	160	0.12	19.85
2	1	48	0.12	5.96
3	0	22	0.00	2.73
4	3	15	0.38	1.86
5	49	1	6.08	0.12
6	237	10	29.40	1.24
7	3	76	0.38	9.43
8	1	41	0.12	5.09
11	220	3	27.30	0.38
12	55	0	6.82	0.00
13	87	0	10.79	0.00
14	49	0	6.08	0.00
15	7	0	0.87	0.00
16	3	0	0.38	0.00
17	0	0	0.00	0.00
18	5	2	0.62	0.25
19	0	0	0.00	0.00
20	2	2	0.25	0.25
21	0	3	0.00	0.38
22	1	5	0.12	0.62
25	0	6	0.00	0.74
26	0	19	0.00	2.35
27	3	21	0.38	2.60
Hwy 26	31	0	3.85	0.00
I-5	1	7	0.12	0.87
I-80N	15	0	1.86	0.00
Misc.	25	56	3.10	6.95
No Response	6	18	0.74	2.23
TOTAL	806	806	100.00	100.00

TABLE 16 REASONS FOR NOT CARPOOLING

	Number of Responses	Percent
No Personal Privacy	106	8.45
Inconvenient	547	43.62
Need Car For Work	277	22.09
Unreliable	169	13.48
Other	155	12.36
TOTALS	1,254	100.00

7) "What do you think is the major reason more people do not ride the bus?"

Route inconvenience was identified most often as the major reason people do not ride the bus. Need the car for work and the bus is too slow were second and third (Table 17).

TABLE 17 REASONS FOR NOT RIDING THE BUS

	Number of Responses	Percent
No Personal Privacy	91	6.78
Too Infrequent	145	10.80
Need Car For Work	238	17.73
Too Slow	225	16.77
Route Inconvenience	361	26.90
Park-and-Ride Locations Inconvenient	105	7.82
Other	177	13.20
TOTALS	1,342	100.00

8) "Which increased activity do you think would do the most to improve air quality?"

Traffic flow improvements and mass transit were indicated as the major activity needed to improve air quality (Table 18).

TABLE 18 IMPROVING AIR QUALITY

	Number of Responses	Percent
Mass Transit	252	26.11
Carpooling	79	8.19
Vehicle Emission Inspection	118	12.23
Traffic Flow Improvements	405	41.97
Other	111	11.50
TOTALS	965	100.00

9) "Can you recommend any improvements to, or do you have any comments concerning the HOV lanes?"

The comments written on the survey forms ranged over a broad area of concerns and suggestions. Some of them are grouped into broad categories which are tabulated in Table 19. Most non-HOV lane users commented that the HOV lanes should be open to all vehicle at all times or at least two-person carpools. They felt that the lanes were not being utilized enough during the peak hours to warrant the preferential lanes. The non-HOV lane users made 659 written comments on their survey forms.

TABLE 19 SUMMARY OF CARPOOL SURVEY COMMENTS

	Carpool Drivers & Passengers	Non-HOV Lane Users	Total Both Groups
Total number of survey forms mailed out on 16 November 1976	250	2,066	2,266
Percent returned by 13 January 1977 cut-off date	37.68%	40.51%	39.78%
COMMENTS			
Open HOV lanes to all vehicles	14.5%	41.7%	35.0%
Favor 2-person carpools	25.0%	12.3%	15.4%
Freeway more dangerous with HOV lanes	8.3%	8.8%	8.7%
HOV lane works well	11.0%	7.2%	8.1%
Favor earlier start of HOV lanes eastbound	13.2%	2.3%	5.0%
Reduce the hours of HOV lane operation	2.6%	2.5%	2.5%
Lanes too narrow	7.5%	8.7%	8.4%
More police enforcement	8.8%	4.2%	5.3%
Control traffic on freeway ramps.	4.4%	3.0%	3.4%
Better Tri-Met service	4.0%	5.3%	5.0%
HOV lane creates more pollutants	1.8%	6.2%	5.1%
Other comments	22.8%	34.2%	31.4%

4.4 Marketing Transit and Carpool Use

The Banfield HOV lanes represented an unprecedented innovation in the Portland area. In view of this fact, it was recognized that an extensive marketing effort would be required to gain the cooperation of the public. The marketing program was developed and carried out primarily by the Tri-County Metropolitan Transit District (Tri-Met) under the aegis of the federally funded CARPOOL project, a carpool promotion program for the three county district. Oregon State Highway Division participated in the program costs and some of the effort. The Columbia Region of Associated Governments (CRAG), the city of Portland and Multnomah County were all very supportive of the marketing program. The purpose of the program was to implement a strategy to inform the public of the purpose of the HOV lanes, improve ridership on the Banfield Flyers, and encourage increased carpooling for commuters using the corridor.

An accelerated effort was made during the Summer and Fall months of 1975 by Tri-Met CARPOOL to present a slide show about the Banfield service to as many downtown business employers as possible. The effort was an on-going one and continued after the HOV lanes were opened.

The first mass distribution of HOV lane information was the handing out of 20,000 brochures by Highway Division personnel stationed at exit ramps during the PM peak period (Figure 33). This distribution was accomplished shortly before the HOV lanes were opened and in concert with a public media campaign.

Press releases were distributed to the news media on a regular basis describing what was happening on the project, any changes taking place, etc. The news media was very cooperative in their coverage.

Three different promotional posters were made and 1,500 of each was posted on company and business bulletin boards in the CBD (Figure 34).

To assist the public in learning how to use the HOV lanes, as well as promoting its advantages, shortly after the opening of the HOV lanes, approximately 75,000 operational brochures were produced and distributed. Fifty-five thousand were handed out to employees in the downtown area through various methods including placement of brochures on the desks of office workers, inserting a brochure in the paycheck envelopes of all city employees, and general hand distribution. In addition, Highway Division personnel again stopped motorists at freeway exit ramps and handed out brochures (Figure 33 and 34).

Twenty-two billboards along major arterials in the Portland-East County area were used to announce the HOV lane and promote its use. The advertising agency, Foster and Kleiser, donated the use of 11 of the billboards (Figure 35).

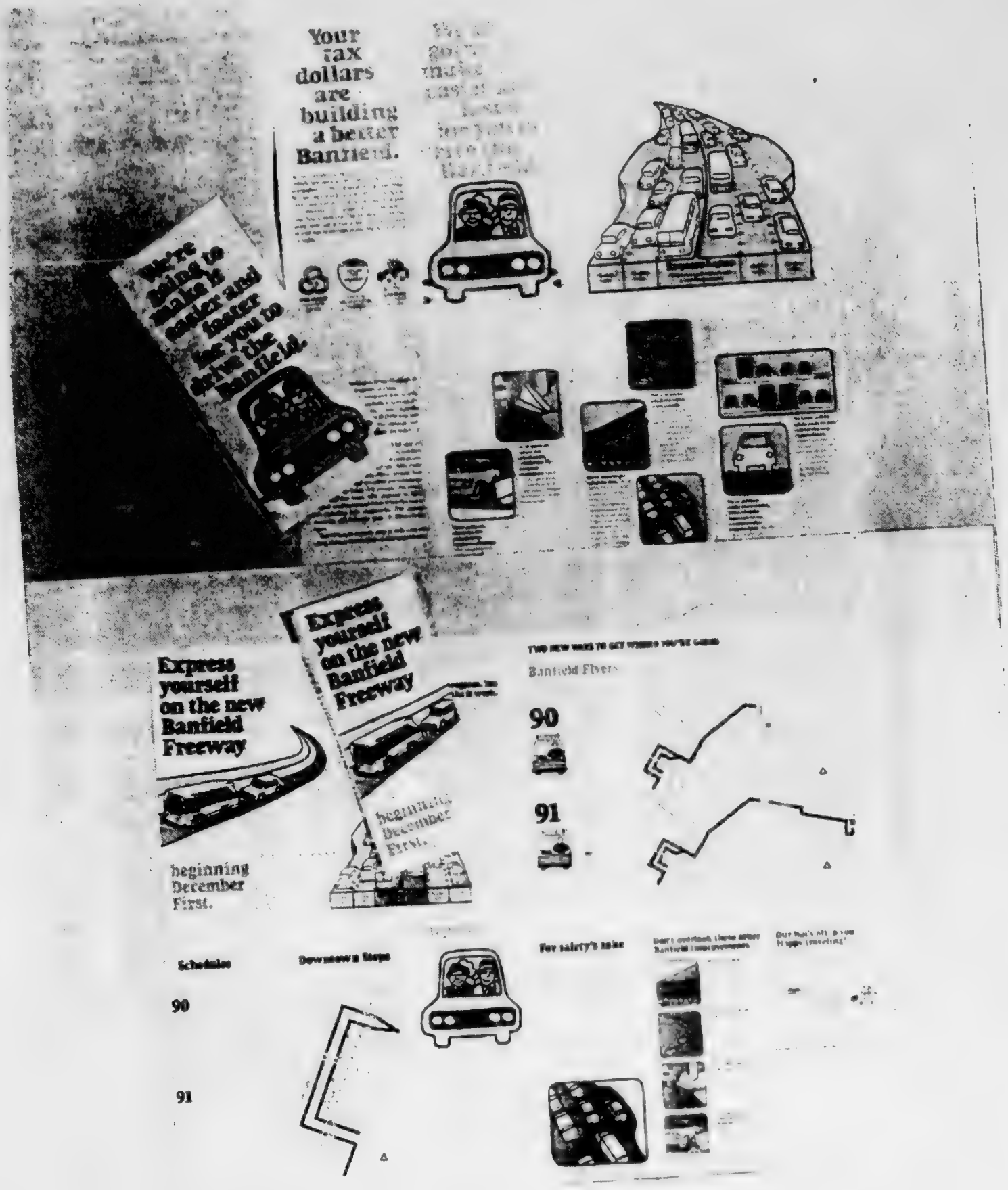

Your tax dollars are building a better Banfield.
We're doing to make it easier and faster for you to drive the Banfield.
Express yourself on the new Banfield Freeway
beginning December First.
Express yourself on the new Banfield Freeway
beginning December First.
90
91
Schedule
90
91

FIGURE 33 INFORMATIONAL BROCHURES

Band together on the Banfield

We provide free matching CARPOOL service. So it's easy. You use the Banfield's restricted lane. So it's fast. And the costs are shared. So do it for a song.

CALL C·A·R·P·O·O·L

(227-7665) for free matching service.

FIGURE 34 PROMOTIONAL POSTER

FIGURE 35 PROMOTIONAL BILLBOARD

The Highway Division and CARPOOL shared equally in the cost of radio spots promoting the HOV lanes. These spots were run one week before and two weeks after the lanes were opened in prime "drive time".

A marketing emphasis was placed on the Gresham area where a majority of the potential Banfield Flyer ridership would originate. A direct mail piece was prepared and sent to every household in the area. At the same time, Banfield Flyer advertisements were carried in the Gresham newspaper (Figure 36).

Public service time on TV and radio was obtained by CARPOOL and a professional advertising agency was contracted to produce several 30-second promotional spots. One of the spots was based on a "Band Together" slogan, and consisted of several commuters getting together for a musical "jam session" in a Volkswagon convertible. Some catchy jazz music, complete with banjo and bass fiddle, combined with the humorous film footage of this unlikely group driving down the HOV lanes made this spot an apparent success. The effectiveness of these spots were enhanced by the good air times, such as during broadcasting of the summer Olympic Games (Figure 37).

Permanent signs were posted along the Banfield encouraging motorists to call for CARPOOL and Banfield Flyer information (Figure 38).

It was felt that the marketing program served an integral role in both introducing a controversial transportation project to the public and eliciting the cooperation of the people in making the HOV lanes work.

Two new ways to express yourself on the Banfield beginning December 1.

Tri-Met's "Banfield Flyers"

Non-stop commuter express service. Buses will pick up passengers at three east side Park & Ride Stations—Mall 205, Silver Skate Ice Rink, and Multnomah Kennel Club—and travel non-stop via restricted Banfield Freeway lanes to downtown Portland. Park free all day and express yourself with Tri-Met.

Form your own Carpool

Carpools with three or more people will be able to use the restricted lanes 24 hours a day, seven days a week. Call CARPOOL today. Free matching service for you and your neighbors who work in the same area

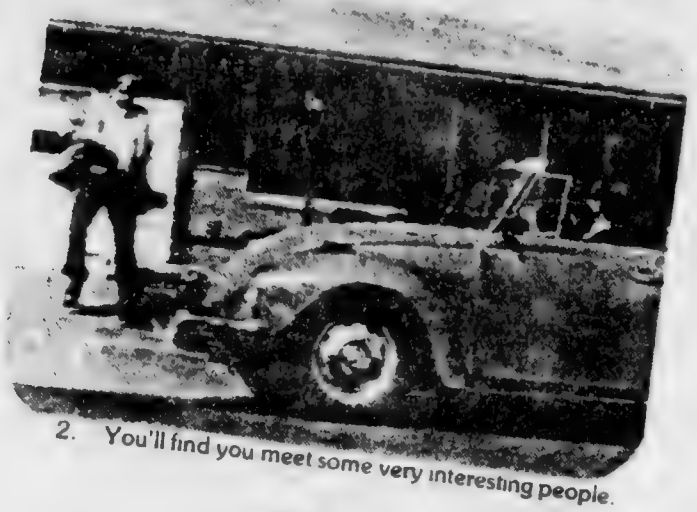
For more information call... **TRI-MET 233-3511** **CARPOOL 227-7665**

A project of the Oregon State Highway Division · 238 8226

FIGURE 36 BANFIELD FLYER AD

CARPOOL Public Service Announcement: 30 second TV

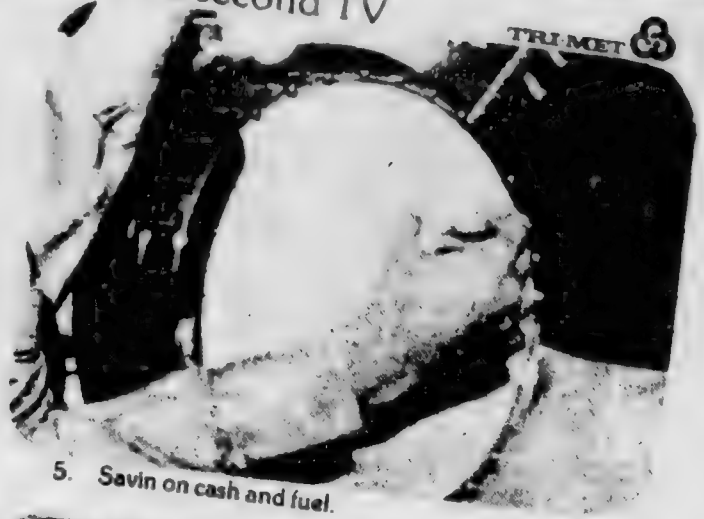
1. ANNCR: CARPOOLing is more than saving money and energy.



2. You'll find you meet some very interesting people.

3 People who make beautiful music together.

4



5. Savin on cash and fuel.

6. Band together. It's easy goin'

7. When you tune in with CARPOOL. CARPOOLing's swell

8

Westbound at Approximately N.E. 16th Avenue

East at Approximately N.E. 58th Avenue

FIGURE 38 PROMOTIONAL SIGNS ON FREEWAY

5.0 ENFORCEMENT OF HOV LANE USE

In order to achieve the maximum carpool incentive from the HOV lanes, it is necessary to provide a high level of enforcement against HOV lane violators. The enforcement on the Banfield is made more difficult because the preferential lanes are not physically separated from the normal travel lanes; and conditions for police patrolling and apprehension are at their worst during the peak flow periods when the HOV limitation is in effect.

5.1 Enabling Legislation

The power to arrest HOV lane violators was given to law enforcement agencies through Oregon State Law ORS 483.532 as ammended by Oregon Laws 1975, Chapter 69B, which provides the Oregon Department of Transportation may designate lanes to be used by buses or high-occupancy passenger vehicles for the purpose of conserving energy and facilitating public transportation and Oregon Transportation Commission Resolution Misc. 256 adopted November 25, 1975.

a. The resolution reads in part:

(1) The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

(2) The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

b. For purposes of this rule, "high-occupancy passenger vehicles" means a passenger vehicle carrying three or more passengers.

c. Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

d. The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

e. The designation of the high-occupancy lanes shall take place upon completion of the present reconstruction project in the affected areas of the Banfield Freeway.

5.2 Implementing Enforcement

The Oregon State Police are responsible for patrolling the Banfield and enforcing vehicle occupancy in the HOV lanes. Representatives of the State Police were included as members of the Technical Advisory Committee and participated heavily in the operational planning and on-going evaluation of the project. They initially expressed serious reservations about the project due to

hazardous enforcement conditions where an office would be required to persue, apprehend, and cite the violator while moving across two lanes of peak period traffic. The problem was further aggravated by the lack of shoulder area in which to pull a violator off.

The police recognized that additional patrols would be required and responded first by adding one unit to the existing two to three car Banfield patrol force. Unacceptable violation rates indicated that the enforcement intensity was still too low. Consequently, a "saturation patrol" program was developed and put into operation.

The saturation patrol consisted of drawing units from other patrol areas and concentrating enforcement on the HOV lane section. The patrols are randomly scheduled, sometimes occurring on two consecutive days. During a saturation patrol, up to six patrol cars may be involved, and each officer can usually write between five and eight HOV citations during a peak period if the violation rate is high.

The State Police have experienced several problems in carrying out their enforcement program which appear to be inherently related to the configuration and situation of the Banfield HOV lanes. The officers have indicated some difficulty in spotting violators from a position where they can effectively make the apprehension. Both the roving car and roadside observation methods are used; however, moving the patrol unit from the detecting point to the HOV lane, then getting the violator back across two regular traffic lanes is a significant problem in heavy commuter traffic. Once the violator has been ushered to the outside lane, the officer is faced with the problem of finding a safe stopping place, and at times, must follow the violator out of the HOV section before making the stop. Emergency parking bays and off-ramps are frequently used for citing violators.

In the State of Oregon, the witnessing officer must also be the citing officer, which precludes the use of several innovative techniques suggested by the TAC, such as stationing an officer on an overpass to spot a violator, then make radio contact with a patrol unit for apprehension, or the use of photographic detection in some manner.

5.3 Citations

The citation for an HOV lane violation is for "disobeying an official traffic sign" and carries a $17.00 bail, plus a $10.00 surcharge in Multnomah County. The actual fine may be more, less, or nothing compared to the bail set, depending upon the judge if the ticket is taken to court.

The most frequently heard reason, according to citing officers, is the violator was forced into the HOV lane while trying to avoid an accident. The next most frequently used reason is that the

motorist was stranded in the HOV lane and could not get back into the regular lanes of traffic. Inadequate signing and "did not know what the signs meant" are not frequently heard reasons.

At the time of the citation, the State Police informs the violator of the reasons for the HOV lanes and why the motorist is receiving the citation. The citing officer uses a uniformly worded statement to indicate the violation was an illegal use of the HOV lane. The wording precludes misunderstanding in the event the citation is taken to court.

Table 20 shows the number of citations issued during the study period.

TABLE 20 HOV LANE CITATIONS AND WARNINGS ISSUED

Month	Citations	Warnings
December 1975	75	NA
January 1976	78	NA
February	88	NA
March	96	NA
April	357	40
May	593	19
June	735	89
July	257	37
August	252	51
September	156	55
October	138	35
November	333	59
December	346	34
January 1977	312	47
February	205	27
March	436	39
April	524	35
May	395	35
June	482	37

5.4 Violation Rates

The violation rate is obtained by manual count to determine what percentage of the total number of vehicles that use the HOV lanes do not have the required number of occupants. The violation rate for the Banfield Freeway is shown in Figure 39. The daily number of peak hour HOV lane violators per month has been reduced from an average of 250 violators per day during January through April 1976 to 70 violators per day during March of 1977. The daily number of violators increased to over 110 in January 1977 due to a week of severe winter weather which curtailed enforcement by the State Police.

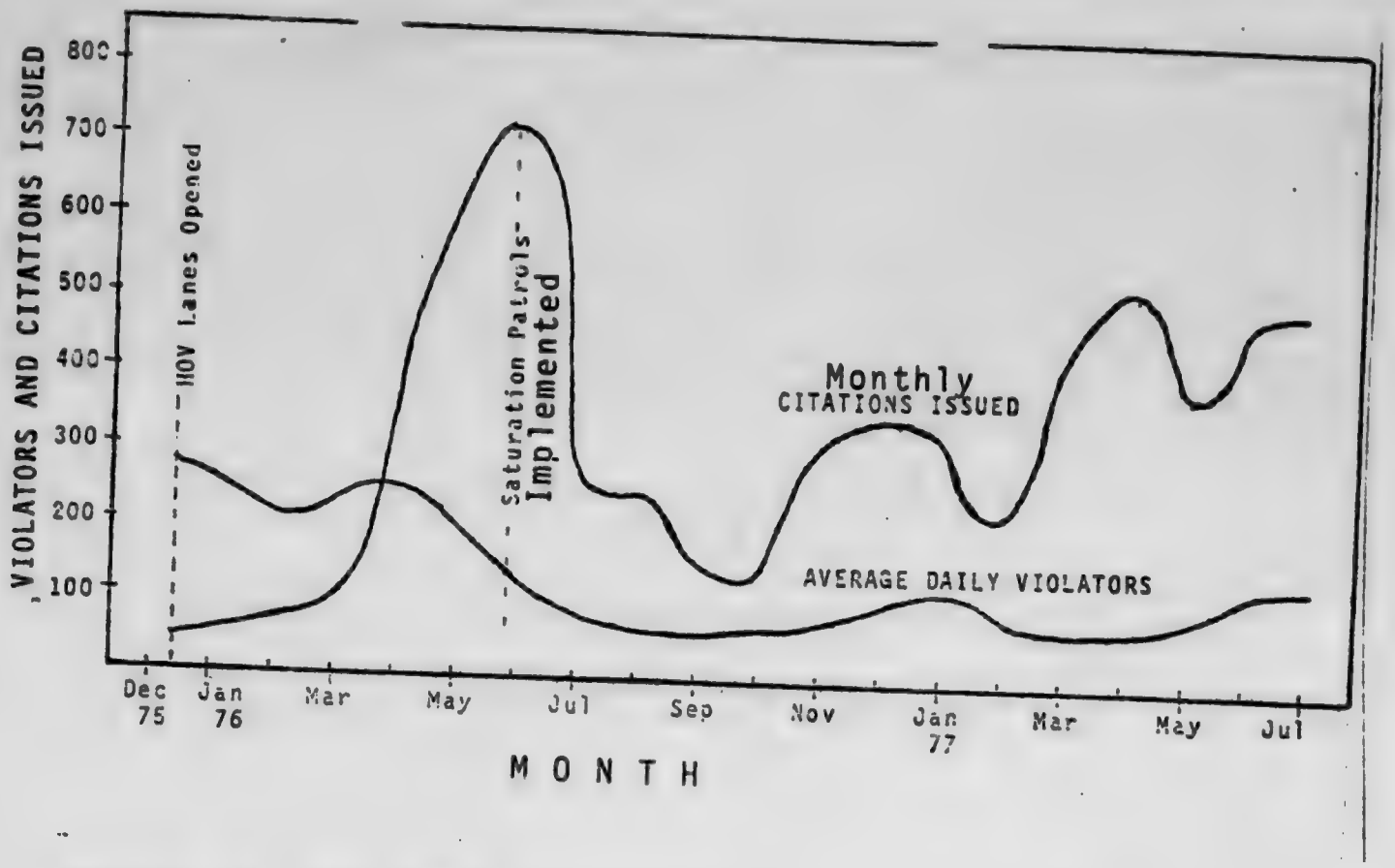


FIGURE 39 HOV LANES VIOLATIONS AND CITATIONS ISSUED

During the last three months of this study, April through June 1977, HOV lane violation rates averaged 12.0 percent of the number of vehicles using the HOV lanes and less than 1.0 percent of the number of vehicles using all the Banfield lanes. The Oregon State Police feel that anything below 20 percent is an acceptable rate before they have to increase patrol efforts.

5.5 Evaluation of Court Cases

Soon after the opening of the HOV lanes, it was discovered that many of those receiving citations and electing to go to court in lieu of paying the bail, were found not guilty by the District Court. A critical factor in the success of the HOV lanes was enforcement. If it had become widely known that the courts were not imposing penalties for violators, the violation rate would probably increase, negating the effectiveness of the HOV lanes. A meeting was arranged between representatives of the Highway Division and the Multnomah County District Court.

From the meeting, it was apparent that the judges had not been adequately informed of the HOV lane purpose and its operational characteristics. To correct this problem, a briefing was held for the district court judges. The judges requested they be placed on the mailing list for Banfield information and a representative from the court be placed on the TAC.

It was agreed that a citation for illegal use of the HOV lanes should not be a moving violation, but a non-moving violation which does not go on a driver's permanent driving record as a hazardous violation.

6.0 PROJECT SAFETY

A principal concern in the planning and monitoring of the HOV lane project was safety. The main elements of this concern were:

a. What adverse affect on speed wouldthe lack of roadway shoulders have, and would the vehicle turnout bays effectively mitigate this impact?

b. How would the narrower travel lanes affect safe user operation?

c. Would the speed differential between the HOV lane and the normal lanes create a hazard?

d. Would the HOV lane cause hazardous weaving problems?

It was anticipated that the lack of shoulders on the Banfield would cause a serious congestion and accident potential as a result of stalled vehicles. In an effort to address this problem, seven emergency parking bays were located within the limits of the HOV lane area at approximately 2,000 foot (610m) intervals. Each bay is able to accommodate six passenger vehicles. Off-ramp areas also provide pull-off space (Figure 40).

FIGURE 40 TYPICAL EMERGENCY PARKING BAY

Once in the bay, the motorist is able to call for assistance by using the emergency telephone located adjacent to each of the seven pull-outs. The telephones are connected directly to the State Police dispatcher and are simple to use, with instructions printed clearly on the front of the phone box. If a motorist is out of gas, a State Police car is sent to the bay where one gallon (3.8 l) of gas is dispensed to the vehicle. For other types of emergencies, the dispatcher takes the appropriate action necessary to assist the motorist (Figure 41).

There are no signs on the freeway to indicate the emergency bays contain telephones. It was felt that the signs would tempt motorists to pull into the bays to make a regular telephone call.

FIGURE 41 EMERGENCY BAY TELEPHONES

Although the State Police had initial reservations about the lack of shoulders to accommodate vehicle breakdowns, they have since reported that there does not seem to be a problem. Most vehicles have been able to reach the emergency bays. If not, the police cars are equipped with push bumpers to push the stalled vehicle into the next bay or exit ramp. Accidents, however, continue to be a problem since damaged vehicles cannot be moved to the side of the road.

The accident history has indicated that the less-than-standard lane widths in the HOV lane section do not seem to be a problem. No appreciable increase in side-swipe accidents occurred during the monitoring period. This lack of increase may partially be attributed to the "Narrow Lanes" signing, and to the effect that the sensation of narrow lanes may have on increasing driver caution.

The difference in peak period travel speed between the faster moving HOV traffic and the congested normal traffic has also proven not to be a problem. Carpool and bus drivers hesitate to drive the posted speed limit when traffic is moving considerably slower in the normal lanes, because of the concern that a vehicle may suddenly pull into the HOV lane. The HOV motorists tend to adjust their speed to the adjacent traffic flow so as to allow sufficient stopping time in emergency situations.

When the HOV lanes were first opened, a considerable amount of potentially hazardous weaving took place; however, the majority of peak period motorists on the Banfield are daily commuters and they quickly learned how the Banfield operates, establishing safe travel patterns. As a result of the commuter's daily familiarity, hazardous weaving movements diminished rapidly to the point that they do not presently seem to be a significant problem.

6.1 Other Identified Safety Problems

Because of the narrow median width at the center of the freeway, the problem of headlight glare for vehicles traveling in the opposite direction became evident soon after the HOV lanes were opened. This problem was solved during the Summer of 1976 by installing glare shield screening on the top of the center median.

Another safety problem became apparent shortly after the HOV lanes were opened. Due to the deletion of the shoulder, several of the on-ramp acceleration lanes were too short to allow adequate acceleration distance for merging vehicles. As a result, many side-swipe and rear-end accidents occurred at the westbound 82nd/Halsey Street, 58th Avenue, 33rd Avenue, and eastbound 39th Avenue on-ramps. Extra work was added to the construction contract to extend these ramps. Since the work was completed in April 1976, the number of accidents at these entrance ramps has reduced to pre-HOV lane accident levels.

During the Summer of 1976, a rash of truck accidents occurred on Portland area freeways. A few of these accidents happened on the Banfield, creating traffic delays. The Oregon State Police undertook a study of truck traffic on Portland freeways. Their report indicated that truck accidents were occurring at the same frequency on all freeways and that excessive speed was the probable reason. There was no indication that the HOV lanes were a contributing factor in the Banfield truck accidents.

It was brought to the TAC's attention that oversize vehicles were using the Banfield during peak periods, and interfering with the operation of the HOV lane. Some of these vehicles were up to 14 feet (4.25m) wide and usually required two lanes, particularly when moving around curves. When the center lane was used, the trailer would project into the HOV lane forcing HOV traffic to follow at a slow speed. When the outside lane was used, the wide vehicles would force traffic to pass them by using the HOV lanes, creating a dangerous weaving situation. A number of the vehicles forced into the HOV lanes had trouble getting back into the normal lanes and were being stopped by State Police as HOV lane violators.

The TAC recommended that oversize vehicles be banned from the Banfield during peak rush hour periods. This recommendation is in the process of being considered by the Oregon Department of Transportation.

6.2 Accident Rates, Types, and Severity

The accident experience on the Banfield was monitored through analysis of accident reports received by the Oregon State Division of Motor Vehicles (DMV). All accidents which occur in Oregon must be reported to the DMV if any injuries are involved or if over $200.00 worth of damage is sustained by any of the vehicles.

Occasional opportunities to make on-the-scene observations at accident sites were used to test the validity of conclusions drawn from DMV records.

A tabulation of all reported accidents occurring within the HOV section of the Banfield and their relationship to total vehicle miles traveled are shown in Table 21 and graphed in Figure 42. The graph indicates that the accident rate per million vehicle miles (1.6 million vehicle km) traveled has returned to pre-HOV lane levels.

The approximate accident rate prior to opening the HOV lanes was between 0.7 and 1.0 (Table 21). During construction, the accident rate increased to a high of 4.0 apparently due to a considerable amount of construction activity in the roadway. The additional construction activity in April 1976 at 33rd and 82nd/Halsey eastbound on-ramps again resulted in an elevation of accident rates to over 2.5. The rate remained between 1.3 and 1.8 during the latter half of 1976 and dropped to below 1.0 during the first half of 1977 where it has continued to decline slightly.

Figure 42 also shows a comparison of the Banfield accident rates to those of two other major freeways serving the Portland CBD, the Minnesota (I-5) and the Sunset (Hwy 26). The Minnesota is a main north-south route into the CBD while the Sunset is an east-west route coming from the west. Sections considered comparable to the Banfield were taken from both freeways and analyzed for accidents. Figure 42 shows very little difference in accident rates for the three freeways after construction on the Banfield was completed.

TABLE 21 TABULATION OF ACCIDENTS - I-80N, BANFIELD FREEWAY
JUNE 1974 TO JUNE 1976

Month/ Year	Million Miles Traveled	Million Kilometers Traveled	Number of Accidents	Average No. of Vehicles/ Accident	Accidents Per Million Miles	Accidents Per 10^6 Kilometers
6/74	N/A	N/A	11	2.91	N/A	N/A
7/74	N/A	N/A	16	2.00	N/A	N/A
8/74	11.25	18.10	5	2.60	0.44	0.27
9/74	10.33	16.62	11	2.64	1.06	0.66
10/74	10.70	17.22	8	2.50	0.75	0.47
11/74	10.16	16.35	13	1.93	0.78	0.48
12/74	10.51	16.91	N/A	N/A	N/A	N/A
1/75	10.06	16.19	6	1.83	0.60	0.37
2/75	9.02	14.51	7	2.00	0.78	0.48
3/75	10.78	17.35	10	2.00	0.93	0.58
4/75	10.49	16.88	9	1.89	0.86	0.53
5/75	10.95	17.62	13	2.00	1.19	0.74
6/75	11.16	17.96	8	2.00	0.72	0.45
7/75	11.10	17.86	19	2.11	1.71	1.06
8/75	11.20	18.02	20	2.35	1.79	1.11
9/75	10.32	16.60	14	2.57	1.36	0.85
10/75	10.69	17.20	30	2.50	2.81	1.75
11/75	10.09	16.23	41	2.29	4.06	2.52
12/75	10.39	16.72	34	2.18	3.27	2.03
1/76	10.03	16.14	14	2.29	1.40	0.87
2/76	9.47	15.24	15	2.53	1.58	0.98
3/76	10.11	16.27	11	2.18	1.09	0.68
4/76	11.36	18.28	29	2.16	2.55	1.58
5/76	11.03	17.75	20	2.08	1.81	1.12
6/76	11.62	18.70	17	2.27	1.46	0.91
7/76	11.48	18.47	15	2.27	1.31	0.81
8/76	11.57	18.62	16	2.38	1.38	0.86
9/76	11.73	18.87	17	2.41	1.45	0.90
10/76	11.73	18.87	18	2.22	1.53	0.95
11/76	12.64	20.34	20	2.40	1.58	0.98
12/76	11.72	18.86	12	2.25	1.02	0.63
1/77	10.37	16.69	7	1.86	0.68	0.42
2/77	10.47	16.85	11	2.45	1.05	0.65
3/77	12.09	19.45	13	2.00	1.08	0.67
4/77	11.79	18.97	2	2.00	0.17	0.11
5/77	11.85	19.07	12	1.92	1.01	0.63
6/77	12.29	19.77	7	2.00	0.57	0.35

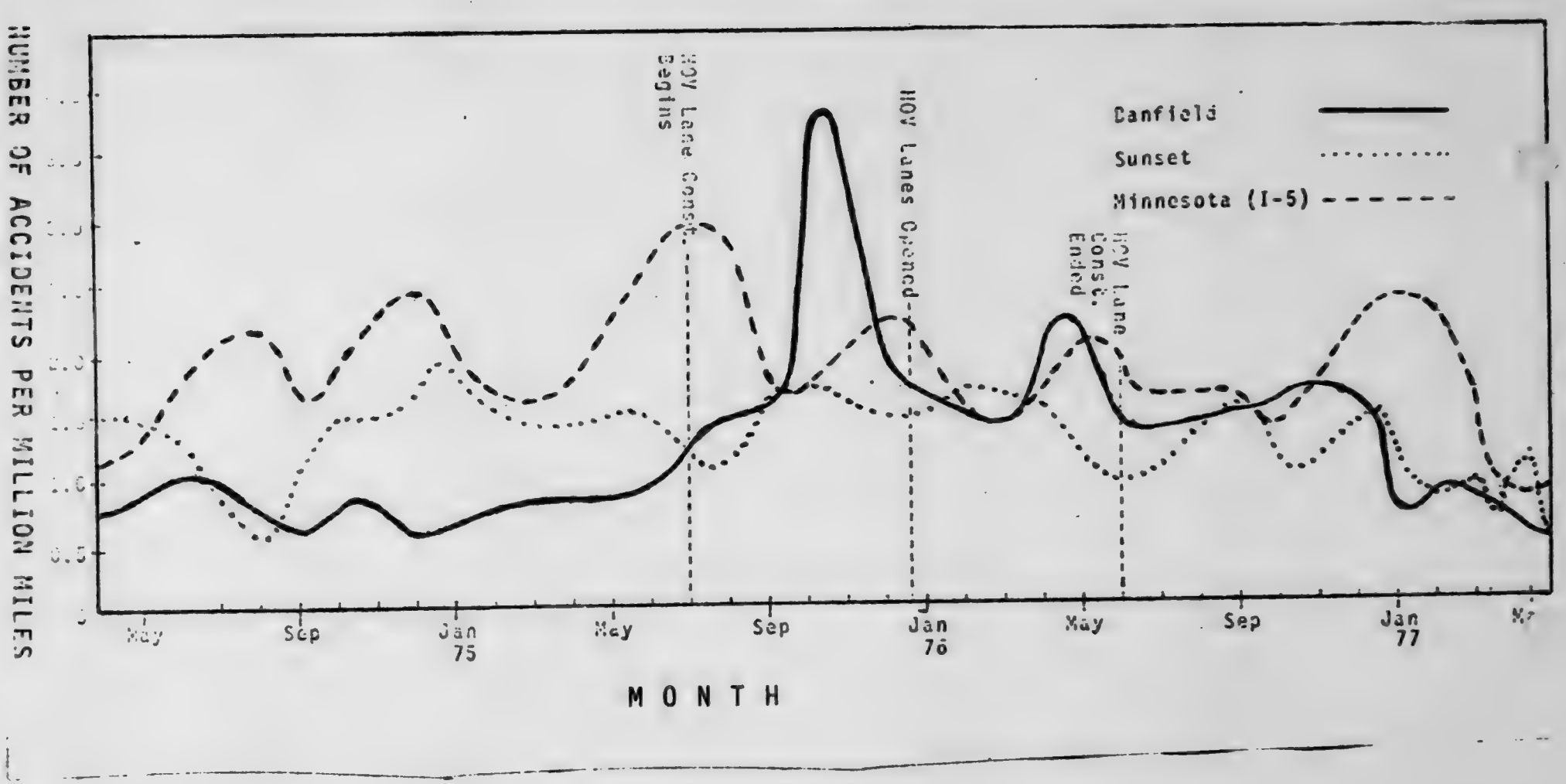


FIGURE 42 PORTLAND AREA FREEWAY ACCIDENT RATES

This lack of difference may indicate that the HOV lanes are not a significant causative factor in the Banfield accidents. Both the Banfield and the Minnesota have similar AWD's, and the Sunset AWD is 20 percent less than the other two freeways.

The number of vehicles involved in each accident was also noted in analyzing the accident reports. The study indicated that the numbers remained approximately the same as before the HOV lanes were implemented, thus the higher speeds in the HOV lanes did not result in more vehicles being involved in each accident.

To analyze the effects of the HOV lanes on the spatial distribution and nature of the Banfield accidents, the accidents occurring in the period from July 1974 to June 1975 (pre-HOV) were compared to accidents occurring between July 1976 and June 1977 (HOV lanes in operation). Tables 22 and 23, and Figures 43 and 44 compare these two periods. It should be noted that the tabular data covers 24 hour days, whereas the Figures 43 and 44 compare only the AM and PM four hour peak periods. The comparison indicates that rear-end accidents have increased (45 to 56 accidents) during the hours of HOV lane operation. The severity of these rear-end accidents as reflected in the number of injuries has also shown an increase (21 to 30). Very little change has occurred in other types of accidents.

The spatial distribution of accidents shown in Figures 43 and 44 is explained as follows:

a. Westbound 6-10 AM (Figure 43).

During the 1974-75 period, most accidents occurred in the inside lane east of the 58th Avenue on-ramp. They were generally rear-end type accidents with half involving injuries. The cluster of accidents in the center lane near 33rd Avenue can probably be attributed to the poor sight distance around the horizontal curve under the 33rd Avenue structure.

During the 1976-77 period, a large portion of accidents recorded occurred in the center lane just east of the Holladay off-ramp. They were generally rear-end types with three quarters of them involving injuries. These accidents were possibly the result of vehicles leaving the HOV lane to exit at the Holladay ramp.

b. Eastbound 3-7 PM (Figure 44).

During the 1974-75 period, most of the accidents occurred west of the 39th Avenue lane drop. Because of the traffic merge required by the lane drop, congestion would at times back up to 16th Avenue resulting in numerous rear-end type accidents. About 60 percent of these accidents involved injuries.

TABLE 22 BANFIELD ACCIDENTS - WESTBOUND

TIME	YEAR	REAREND INJURY	REAREND NON INJURY	FIXED OBJECTS INJURY	FIXED OBJECTS NON INJURY	SIDESWIPE INJURY	SIDESWIPE NON INJURY	OTHER INJURY	OTHER NON INJURY	TOTAL
7:00 PM to 6:00 PM	July 1974 to June 1975	0	2	1	4	1	1	0	2	11
	July 1976 to June 1977	2	2	3	6	1	2	0	1	17
6:00 AM to 10:00AM	July 1974 to June 1975	9	9	0	1	0	2	0	1	21
	July 1976 to June 1977	14	10	0	0	0	4	0	0	28
10:00AM to 3:00 PM	July 1974 to June 1975	0	1	2	0	1	1	0	0	5
	July 1976 to June 1977	7	6	0	2	1	4	0	2	22
3:00 PM to 7:00 PM	July 1974 to June 1975	2	5	3	1	0	4	1	0	16
	July 1976 to June 1977	6	3	2	2	0	3	0	0	16

TABLE 23 BANFIELD ACCIDENTS - EASTBOUND

TIME	YEAR	REAREND INJURY	REAREND NON INJURY	FIXED OBJECTS INJURY	FIXED OBJECTS NON INJURY	SIDESWIPE INJURY	SIDESWIPE NON INJURY	OTHER INJURY	OTHER NON INJURY	TOTAL
7:00 PM to 6:00 PM	July 1974 to June 1975	6	2	1	1	0	0	0	1	11
	July 1976 to June 1977	5	1	4	1	1	2	0	1	15
6:00 AM to 10:00AM	July 1974 to June 1975	0	0	2	0	0	0	0	0	2
	July 1976 to June 1977	1	1	1	0	0	0	0	0	3
10:00AM to 3:00 PM	July 1974 to June 1975	2	0	2	0	0	0	0	0	4
	July 1976 to June 1977	2	5	1	1	2	5	0	0	16
3:00 PM to 7:00 PM	July 1974 to June 1975	14	11	1	0	1	5	0	0	32
	July 1976 to June 1977	18	15	1	1	1	3	1	0	40

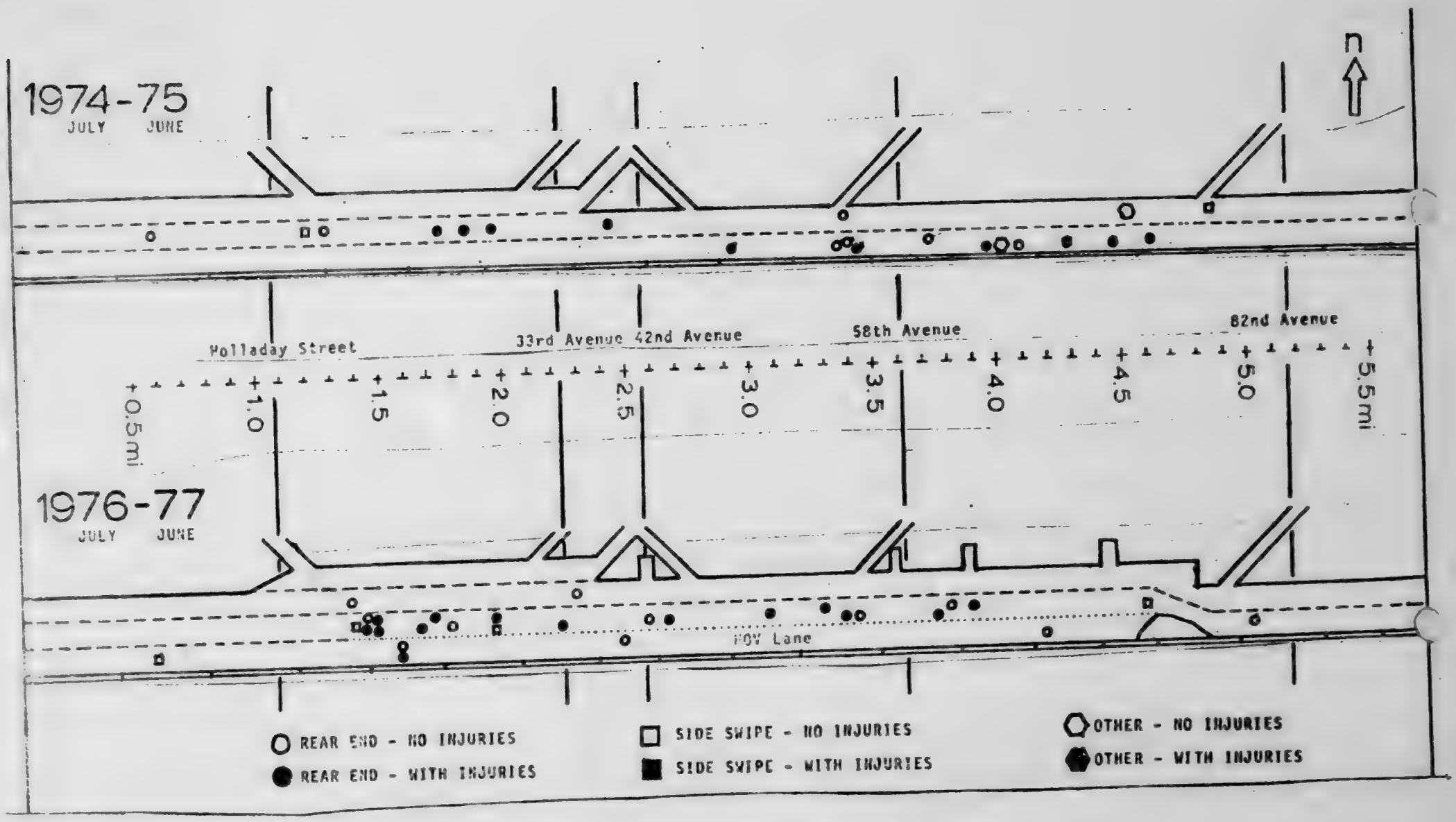


FIGURE 43 TRAFFIC ACCIDENTS 6-10 AM WESTBOUND

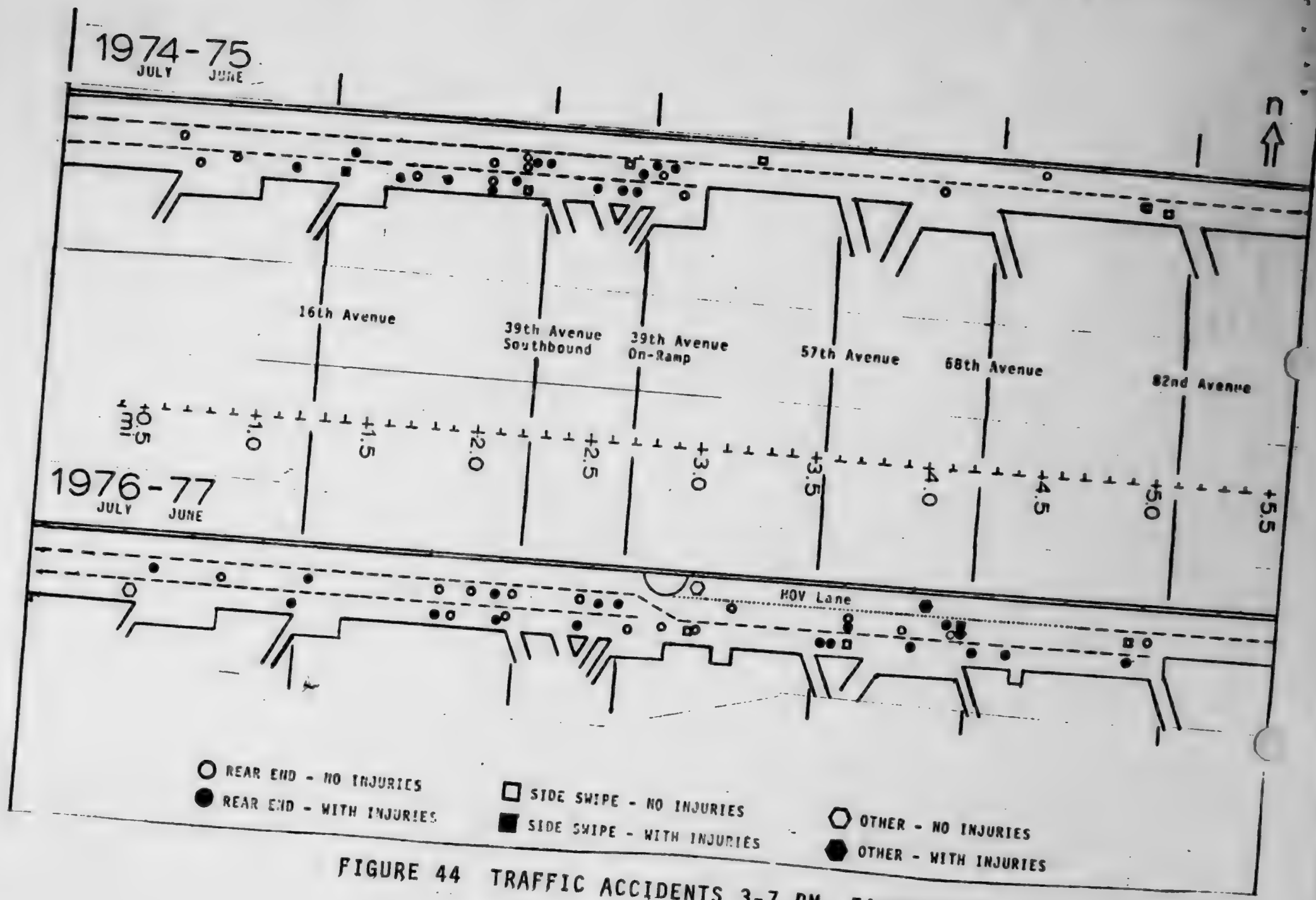


FIGURE 44 TRAFFIC ACCIDENTS 3-7 PM EASTBOUND

During the 1976-77 period, the number of accidents west of 39th Avenue were substantially reduced. However, an increase in the number of accidents occurred between the 60th Avenue on-ramp and the 68th Avenue off-ramp, in the center and outside lanes. They were generally rear-end types and approximately three quarters of them involved injuries. The cause was attributed to poor sight distance around a sharp horizontal curve at 68th Avenue, and congestion from backed-up traffic on the 82nd Avenue off-ramp.

In conclusion, there has been a slight increase in accidents in the last two years. This is probably due to an increase in traffic volume. The rate of accidents per million vehicle miles during the first half of 1977 is near the rate of accidents per million vehicle miles during the first half of 1975. The seriousness of the accidents appear to be slightly greater based on more injuries being reported. The HOV lanes do not seem to contribute significantly to the accident potential on the Banfield.

7.0 AIR QUALITY

The purpose of this section is to assess the short-term air quality impacts resulting from the operation of the High Occupancy Vehicle (HOV) lanes in the Banfield Freeway corridor. The study of air quality consisted of two discrete elements: (1) the collection and interpretation of air quality data in the study area, and (2) the application of pollutant emission factors[1] to traffic data collected concurrent with this study. The results of the air quality study are presented as a comparative analysis of two "alternatives". The Build alternative refers to the HOV lanes as operating during the course of this study, while the No-Build alternative represents what would have occurred without the HOV lanes. The later condition was based on historical traffic data. The collection of ambient air quality data was initiated shortly after the opening of the Banfield HOV lanes. Monitoring sites were selected along the corridor and major adjacent arterials, and thus reflect the source of dependent contributions of these facilities[2].

Carbon Monoxide (CO) was monitored most extensively under this program. Three sampling sites were used to assess the effects of the major arterial streets (Broadway, Burnside and Sandy) on the Banfield corridor airshed. Two additional sites were selected to monitor the direct effects of the HOV lanes. A sixth CO sampling site was located near the Lloyd Center. This site was also used to measure total suspended particulate (TSP), lead (Pb), and nitrogen oxides (NOx). One additional site adjacent to the Banfield Freeway was used to collect supplemental meteorological data. The locations of the collection sites are shown in Figure 45.

The comparative analysis of the alternatives was based primarily on the results of a total emissions analysis. Traditionally, such an analysis is based on average daily traffic, which yields results in tons of pollutants per year (i.e. total annual pollutant emissions). For the purpose of this report, this procedure was modified by using peak hour traffic data, thus resulting in total annual emissions for peak hours only.

7.1 Background Climatological Information

The effect which a pollutant source has on nearby receptors is strongly influenced by local meteorological conditions. The thermal structure of the atmosphere (i.e. the relationship between air temperature and height) is one such meteorological parameter affecting pollutant concentrations. Under normal meteorological conditions,

[1] U.S. Environmental Protection Agency, AP-42 (see Appendix E)

[2] Such data reflects the absolute pollutant concentration, that is, the sum of both local source emissions and background, defined as the concentration of pollutants at a site which is unaffected by <u>any single</u> local source such as an existing highway, parking lot, or industry.

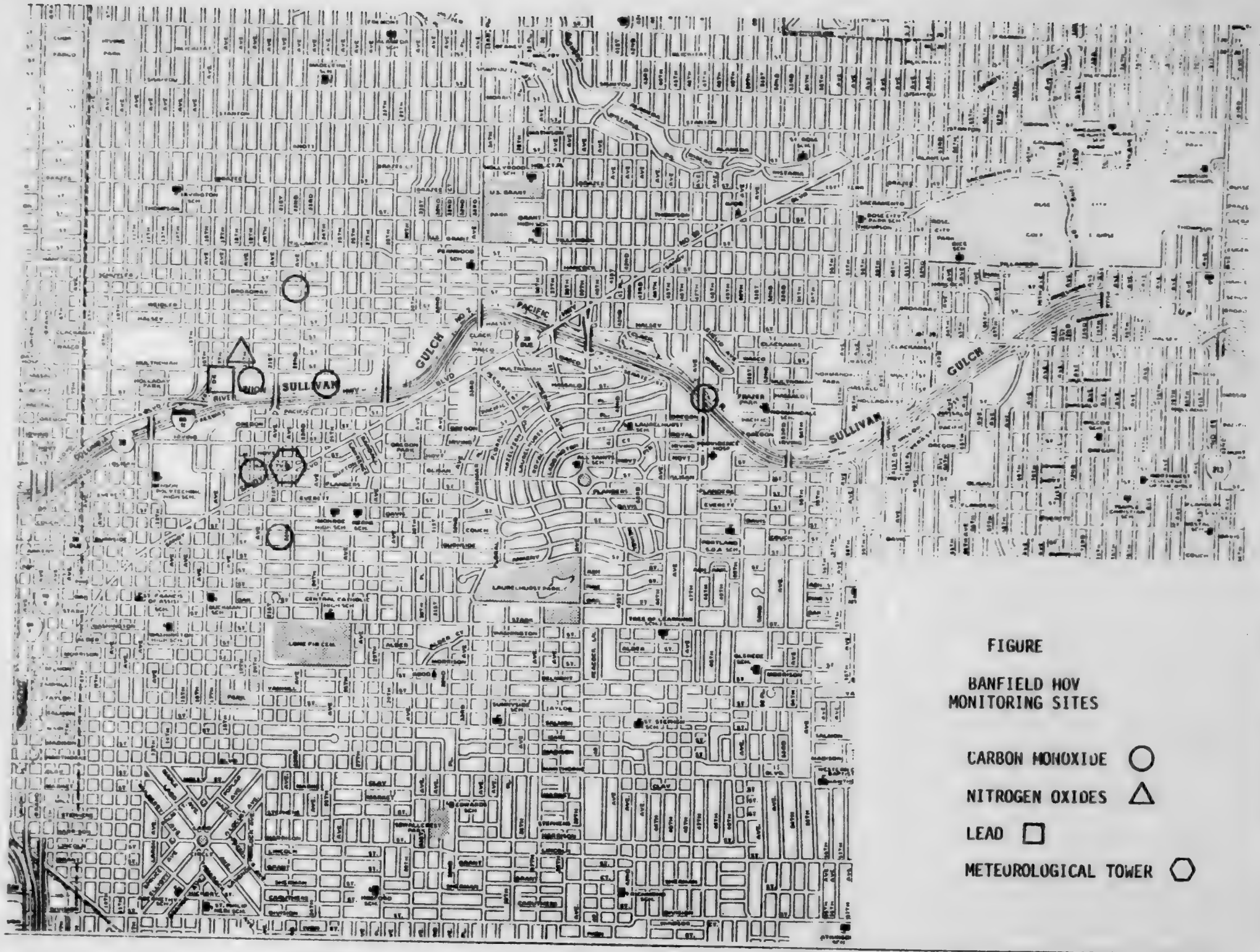


FIGURE 45 BANFIELD HOV MONITORING SITES

air temperature decreases with increasing height above the earth's surface at a rate of approximately 5.4°F per 1,000 feet. This condition is known as the normal adiabatic lapse rate and is typified by rising warm air being replaced by cooler air. However, conditions in the Portland area are such that thermal inversions are a common occurrence. A thermal inversion, in which air temperature increases with height, strongly resists vertical motion and tends to suppress turbulence. The thermal inversion is therefore of particular interest in air pollution, since it does not allow pollutants to disperse. Thermal inversions occur in the Portland area as frequently as nine out of ten nights during the late Summer, Fall, and early Winter months for periods of up to 12 hours on each of these days.[1] If inversions exist aloft, they tend to act as a "lid" that is pollutants generated on the surface will rise until such a "lid" is reached. If inversions develop near the ground, little if any upward dispersion of pollutants will occur.

Another factor that influences pollutant dispersion is wind shear. Wind shear is defined as the variation of horizontal wind speed with height. Close to the ground, the effects of friction retard the wind flow. This reduction of wind speed close to the ground tends to slow the lateral dispersion of pollutants. Thus, wind speed, to some extent, will determine the concentration of pollutants in a given volume of air. In general, higher wind speeds create more favorable conditions for dispersion of pollutants.

Vertical temperature structures and wind shear are related to atmospheric stability. A stable atmosphere tends to increase pollutant concentrations while an unstable atmosphere tends to minimize the concentrations by providing greater dillution.

Another climatological function influencing levels of air pollution is the abundant sunlight in Portland associated with long summer days. The high daily influx of solar radiation is a necessary ingredient of photochemical oxidants (smog). Solar radiation plays an important part in the formation of secondary pollutants and is also one of the primary factors that affect atmospheric stability near the ground.

Relating stability classifications to wind speeds and estimated net radiation was first accomplished by Pasquill in 1962. Pasquill's stability classification was based on six classes for day and night conditions (Table 24). These stability categories are designated A through F[2].

[1] I-205 Final Environmental Impact Statement (see Appendix E)

[2] Highway Air Quality (see Appendix E)

TABLE 24 PASQUILL STABILITY CLASSIFICATIONS

A - Extremely unstable conditions
B - Moderately unstable conditions
C - Slightly unstable conditions
D - Neutral conditions (applicable to heavy overcast, day or night)
E - Slightly stable conditions
F - Moderately stable conditions

Surface Wind Speed at 10 meters Meters per second	Daytime Conditions			Nighttime Conditions a/	
	Incoming Solar Radiation			Thin Overcast or ≥ 4/8 Cloudiness b/	≤3/8 Cloudiness
	Strong	Moderate	Slight		
<2	A	A-B	B	-	-
2-3	A-B	B	C	E	F
3-5	B	B-C	C	D	E
5-6	C	C-D	D	D	D
>6	C	D	D	D	D

a/ Nighttime conditions refers to the period one hour before sunset to one hour after sunrise.

b/ The degree of cloudiness is defined as that fraction of the sky above the local apparent horizon which is covered by cloud.

Recent research has shown that stability Class F does not occur near roadways, due to the thermal and mechanical mixing caused by traffic.[1] The worst case stability classes in the Portland area for transportation related computer models are assumed D or E[2].

Local topography, rivers, and man-made structures alter the normal wind flow patterns and thus affect the dispersion and transportation of pollutants. The area affected is variable and dependent on the size, shape, and texture of the obstructions. Meteorological data should be collected as close as possible to pollutant monitoring sites to accurately record the wind flow patterns.

7.2 Air Quality Standards

Primary pollutants are those chemical components which are emitted directly into the atmosphere by a source. Carbon monoxide (CO), hydrocarbon (HC), sulfer dioxide (SO_2), and Total Suspended Particulate (TSP) are all considered as primary pollutants. Secondary pollutants are those formed in the atmosphere as a result of reactions such as hydrolysis, oxidation, and photochemistry. Nitrogen dioxide (NO_2) and the entire class of photochemical oxidants comprise the largest part of this classification.

Transportation is the predominant source of carbon monoxide and hydrocarbons and accounts for about 50 percent of total pollutant emissions from all sources (Table 25).[3]

In an effort to develop air quality criteria to protect against potential adverse effects, the U.S. Clean Air Amendments of 1970 established two levels of air quality standards. These are primary standards which are designed to protect human health and secondary standards which are established to protect human welfare. Table 26 presents the National Ambient Air Quality Standards established by the Clean Air Act (as amended-1977). It should be noted here that under provisions of the Clean Air Act, states were also given the option of establishing their own ambient air quality standards provided that such standards are at least as stringent as the federal standards. Oregon's DEQ has done this and adopted the federal primary standards as their primary standards, except for TSP and SO_2 where the lower Federal secondary standards were adopted as the State primary standards.

[1] Project Air Quality Considerations (see Appendix E)

[2] Worst case stability classes are those conditions which would conceivably exist more than once annually and would create a situation conducive to the build-up of pollutants in a given locality.

[3] Highway Air Quality (see Appendix E)

TABLE 25 ESTIMATED ANNUAL EMISSIONS OF AIR POLLUTANTS IN THE UNITED STATES-1974

Source Category	Pollutants (Millions of tons) CO	HC	NOx	Particulates	SOx	Source Total	Percent
Transportation	73.5	12.8	10.7	1.3	0.8	99.1	50
Fuel Combustion in Stationary Sources	0.9	1.7	11.0	5.9	24.3	43.8	22
Industrial Process Loss	12.7	3.1	0.6	11.0	6.2	33.6	17
Solid Waste Disposal	2.4	0.6	0.1	0.5	0.0	3.6	2
Miscellaneous	5.1	12.2	0.1	0.8	0.1	18.3	9
U.S. TOTAL	94.6	30.4	22.5	19.5	31.4	198.4	
BY PERCENT	48.0	15.0	11.0	10.0	16.0		100

Source: Environmental Protection Agency

TABLE 26 NATIONAL AIR QUALITY STANDARDS

POLLUTANTS	DESCRIPTION
(1)Sulfer Oxides	Results primarily from combustion of sulfer-containing fossil fuels. Their presence has been associated with the incidence of respiratory diseases, increased death rates, and property damage.
(2)Particulate Matter	Particulate matter, either solid or liquid, may originate in nature as a result of industrial processes and other human activities. By itself or in association with other pollutants, particulate matter may injur the lungs or cause adverse effects elsewhere in the body. Particulates reduce visibility and contribute to property damage and soiling.
(3)Carbon Monoxide	is a by-product of incomplete burning of carbon-containing fuels and some industrial processes. The most abundant source is the internal combustion engine. It decreases the oxygen-carrying ability of the blood and at levels often found in city air, may impair mental processes.
(4)Photochemical Oxidants	are produced in the atmosphere when reactive organic substances, chiefly hydrocarbons and nitrogen oxides, are exposed to sunlight. Photochemical oxidants irritate mucous membranes, reduce resistance to respiratory infection, damage plants and contribute to the deterioration of materials.
(5)Hydrocarbons	are mainly from processing, marketing, and using petroleum products. Some ofthe hydrocarbons combine with nitrogen oxides in the air to form photochemical oxidants. The hydrocarbons standard is for use as a guide in devising implementation plans to achieve the oxidant standard.
(6)Nitrogen Oxides	usually originate in high-temperature combustion processes. The presence of nitrogen dioxide in the air has been associated with a variety of respiratory diseases. Nitrogen dioxide is essential in the natural production of photochemical oxidants.
(7)Lead*	Airborne lead results primarily from automotive emissions. Symptoms of mild lead intoxication include loss of appetite, drowsiness, and abdominal pain. Ingestion is the prime method leading to elevated blood-lead levels. Airborne lead, by settling out, may contaminate dirt and dust, thus becoming potentially harmful.

* Not to be exceeded more than once annually

TABLE 26 (cont.) NATIONAL AIR QUALITY STANDARDS

	SAMPLING PERIOD	LOWEST CONCENTRATION FOUND TO PRODUCE ADVERSE HEALTH EFFECTS	PRIMARY STANDARD	MARGIN OF SAFETY	SECONDARY STANDARD
(1)	Annual arithmetic mean	115 ug/m^3	80 ug/m^3	30%	60 ug/m^3
	24-hour maximum**	300-1,500 ug/m^3 occurring 3-4 days	365 ug/m^3	0 to 76%	260 ug/m^3
	3-hour maximum**	- - -	- - -	- - -	1,300 ug/m^3
(2)	Annual geometric mean	80-100 ug/m^3***	75 ug/m^3 DEQ 60 ug/m^3	6 to 25%	60 ug/m^3
	24-hour maximum**	300 ug/m^3***	260 ug/m^3	13%	150 ug/m^3
(3)	8-hour maximum**	12-17 mg/m^3	10 mg/m^3	17 to 41%	Same as Primary
	1-hour maximum**	56 mg/m^3	58 mg/m^3	31%	Same as Primary
(4)	1-hour maximum**	200 ug/m^3 max. daily value	160 ug/m^3	20%	Same as Primary
(5)	3-hour maximum** (measured between 6 and 9 AM)	Adverse health effects noted only after reaction to photochemical oxidant	160 ug/m^3	- - -	Same as Primary
(6)	Annual arithmetic mean	118-156 ug/m^3 (mean for 24-hour concentration over 6 month period)	100 ug/m^3	- - -	Same as Primary
(7)	One month average	- - -	3 ug/m^3	- - -	- - -

ug/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

** Combined effect of both gaseous phase and particulate
*** No National Standard for this pollutant exists, however the Oregon DEQ has adopted a lead standard for projects in this state.

The standards were established to protect the most sensetive groups within our society - children and the aged. The areas where these sensitive groups live, play, or work are identified as critical receptors. The effects of various concentrations of pollutants are listed in Tables 27, 28, and 29.

7.3 Existing Air Quality

The existing air quality in the study area (summarized in Table 30) has been determined for six categories of pollutants using data collected by the DEQ and recent data collected by the Oregon State Highway Division. These pollutants include CO, HC, NO_2, TSP, Ozone (O_3), and lead. The data on CO, NO_2, TSP, and lead were obtained through field study for this project.

The meteorological data used in this study was collected by one Meteorology Research, Inc. (MIR) unit. This unit is a self-contained weather system. The weather station measures and accurately (±2%) records the wind direction, wind speed, and air temperature. The data is recorded by a marker on a pressure-sensitive white moisture-resistant chart. The accuracy has been tested for speeds of less than 0.75 MPH (1.2km/h) to more than 100 MPH (160km/h).

The meteorological data was put into table format using the computer program WIND2. The output of WIND2 is a frequency distribution table suitable for use in constructing wind roses. A wind rose is a circular diagram of the percent frequency which winds from any given direction occur. The length of each line is proportional to the frequency of the wind from that particular direction. Wind roses for the project study period are shown in Figures 46 and 47. The wind roses were constructed only for winds less than three MPH (4.80km/h) since the highest pollution concentrations are normally recorded during periods of low wind speeds.

A visual comparison of the wind roses for the two years show no correlation except for the months of March and April. Possibly the winter storm season affected local wind patterns enough to alter seasonal trends.

Topographical features in the project area range from isolated projections (buildings, hills) to depressions on level ground (canyons). As air passes over the natural or man-made obstacles, it is forced to change its pattern and creates turbulence. In the project study area, Sullivan Gulch is the major terrain feature and will affect wind flow throughout the majority of the study area. Sullivan Gulch will tend to channel winds parallel to the Gulch except during periods of extreme stability.

The CO samples were collected by sequential bag samplers which fill 12 bags with ambient air, one each hour, and store the air samples until they can be analyzed by an Ecolyzer. The CO concentrations were recorded to the nearest part per million.

TABLE 27 EFFECTS OF CARBON MONOXIDE*

Concentration ppm	Exposure Time	Effects
5	20 min.	Reflex changes in the higher nerve centers.
5-10	-	Average levels of CO in most large cities.
30	8 hrs or more	Impairment of visual and mental acuity (five percent carbonxyhemoglobin).
70 to 100	-	Maximum levels occuring in some large cities.
200	2-4 hrs	Tightness across forehead, possible slight headache.
500	2-4 hrs	Severe headache, weakness, nausea, dimness of vision, possibility of collapse.
1,000	2-3 hrs	Rapid pulse rate, coma with intermittent convulsions, and Cheyne-Stokes respiration.
2,000	1-2 hrs	Death

*All effect levels pertain to healthy individuals. Specific effect levels for individuals who for other reasons are approaching levels of tolerability are not available.

TABLE 28 EFFECTS OF NITROGEN DIOXIDE

Concentration ppm	Exposure Time	Effects
0.1	-	Limit of acceptability for coloration effect in aerosol-free air with viewing distance of 10 miles (16km).
0.25	-	Limit of acceptability for coloration effect in normal metropolitan air with viewing distance of 10 miles (16km) when visibility is 20 miles(32km).
0.5	3 months	Increased susceptibility to infection in mice by certain aerosolized bacteria.
0.5	12-19 days	Significant growth reduction in tomato and bean seedings. Chlorosis of leave reported.
2.5	7 hrs +	Bean, tomato, and nicotina glutinosa leaves damaged with white lesions occuring.
1-3	-	Odor threshold.
3	4-8 hrs	Pinto bean leaf damage.
3.5	2 hours	Increased susceptibility to infection in mice by certain aerosolized bacteria.
13	-	Nasal and eye irritation noticeable

Source: Interstate Air Pollution Study (see Appendix E)

TABLE 29 EFFECTS OF OZONE

Concentration ppm	Exposure Time	Effects*
0	-	Ozone considered radiomimetic - no safe level.
0.01	8 hours	Odor threshold of ozone.
0.02	8 hours	Damage to tobacco leaves begins.
0.03	8 hours	Significant damage to tobacco leaves.
0.05	-	Nose and throat irritation threshold.
0.05	1 hour	Damage to tobacco leaves begin
0.10	1 hour	Significant damage to tobacco leaves. Pine tree needle tips burn.
0.05	-	Threshold for eye irritation in sensitive people (ambient oxidant)
0.15**	-	Generally stated eye irritation threshold for normal people (ambient)
0.10	-	Reduction in oxygen consumption and blood oxygen concentration levels of emphysema patients, compared to effects on some patients breathing filtered air (ambient).
0.1 to 0.25	long term	Shortens life span, increases mortality of guinea pigs.
0.10	8 hours	Definite symptomatic effects in sensitive people
0.20	3 hours	Decrease of visual acuity.
0.60	-	Cough irritation threshold, pronounced nose and throat irritation.
1	1½ hours	Coughing, irritation, severe exhaustion
3-12	2-3 hrs	Letal to small laboratory animals.

* As determined from laboratory experiments using ozone except where otherwise noted. Ambient measurements are for "total oxidants".

**0.25 ppm by the phenophthalin method.

Source: Interstate Air Pollution Study (see Appendix E)

TABLE 30 SUMMARY OF EXISTING AIR QUALITY IN PROJECT STUDY AREA

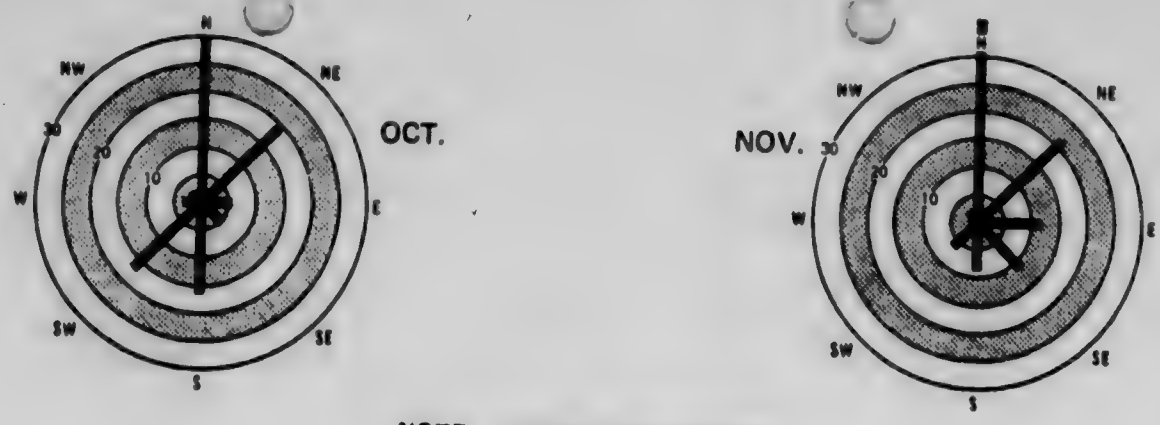
Pollutant	Air Quality Standard[1/]	Absolute Pollutant Concentrations	
		Average (all sites)	Maximum (at any site)
Carbon Monoxide	10 mg/m^3 8-hour average	2.9	12.0
Hydro-carbons	160 ug/m^3 averaged over 3-hour period from 6 AM to 9 AM	-	300[2/]
Nitrogen dioxide	100 ug/m^3 annual average	65[3/]	96[3/]
Total Suspended Particulate[4/]	60 ug/m^3 annual average	68	200
Photo-chemical oxidants	160 ug/m^3 one-hour maximum	-	180[2/]
Lead[4/]	3 ug/m^3 one-month average	1.4	2.1

1/ See Table 26 for complete list of standards

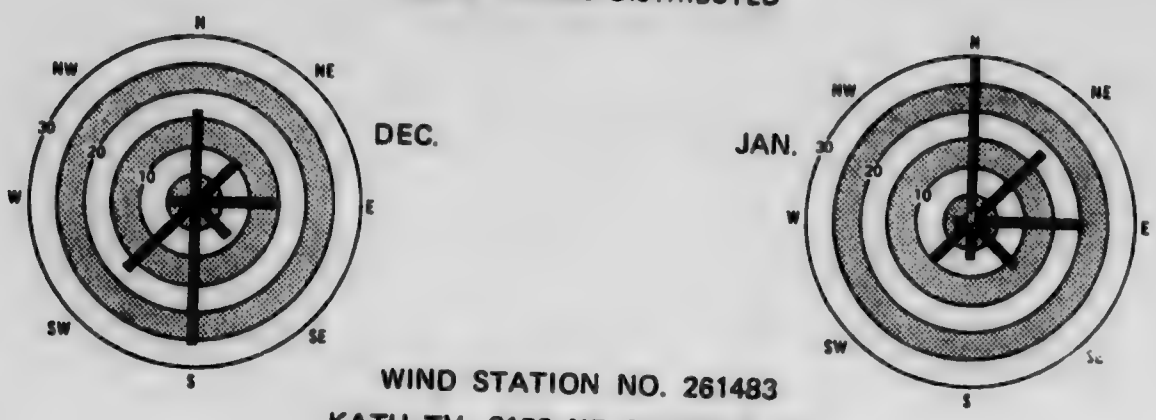
2/ Estimated worst case

3/ Monthly average shown

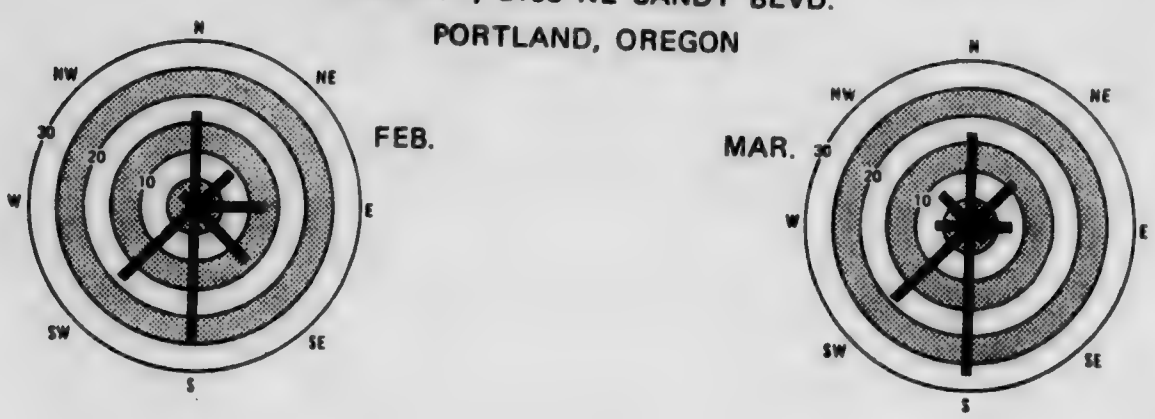
4/ Data obtained at one site only

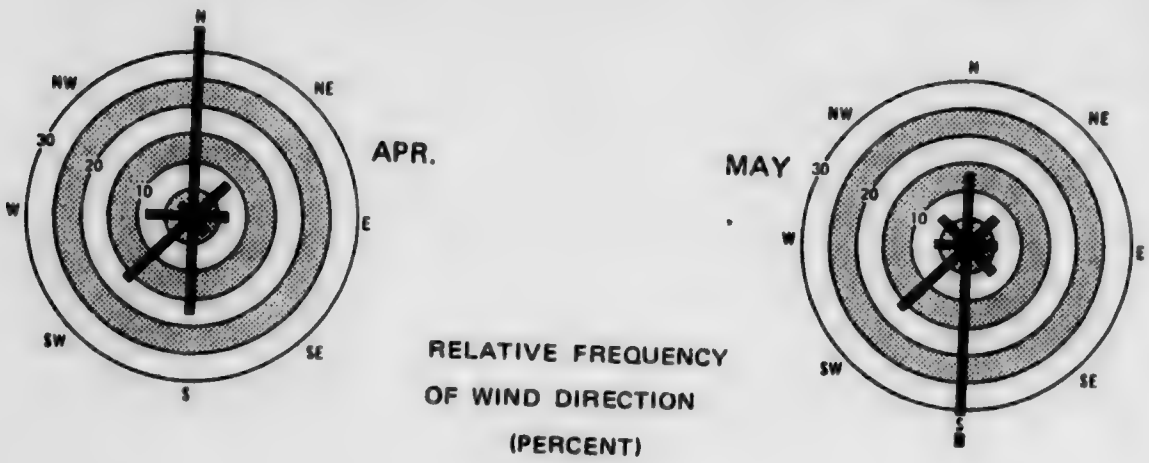


NOTE: CALMS DISTRIBUTED



WIND STATION NO. 261483
KATU TV, 2153 NE SANDY BLVD.
PORTLAND, OREGON





RELATIVE FREQUENCY
OF WIND DIRECTION
(PERCENT)

FIGURE 46 WIND ROSES
FOR WIND SPEEDS LESS THAN 3 MPH 1975-1976

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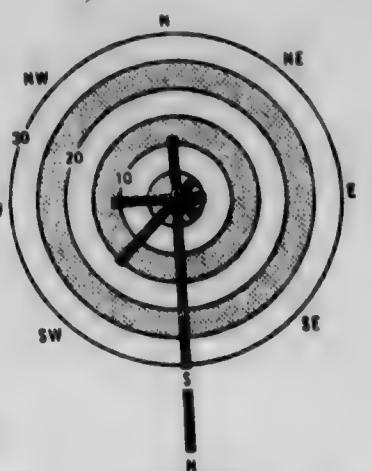

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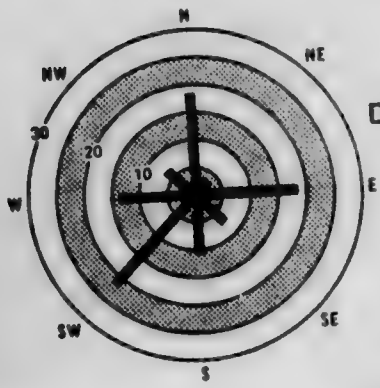

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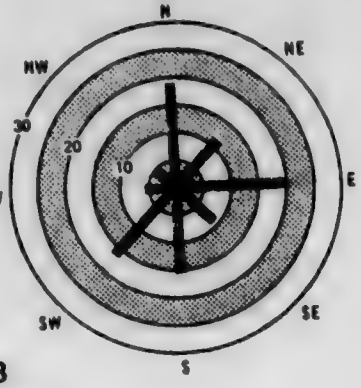
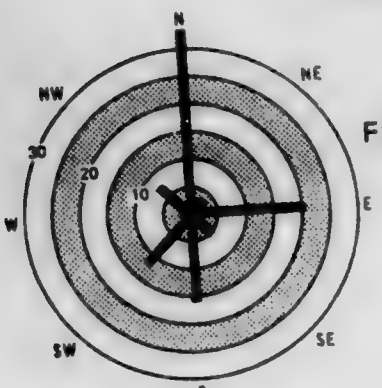


JAN.

WIND STATION NO. 261483
KATU TV, 2153 NE SANDY BLVD.
PORTLAND, OREGON



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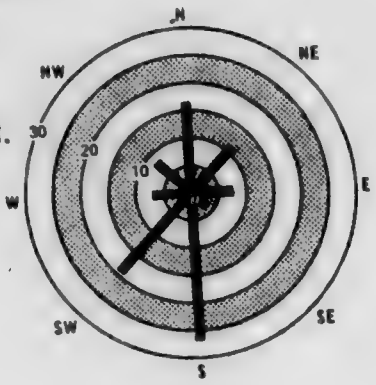

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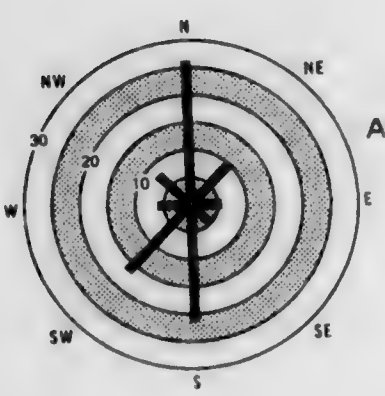

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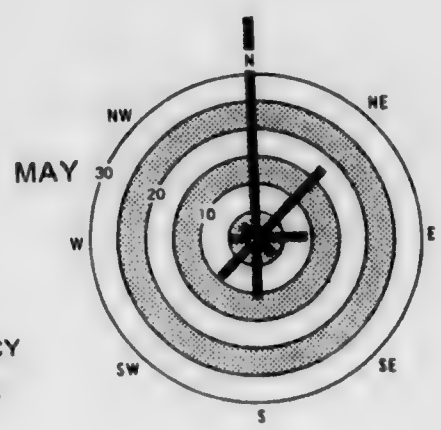

MAY

RELATIVE FREQUENCY
OF WIND DIRECTION
(PERCENT)

FIGURE 47 WIND ROSES
FOR WIND SPEEDS LESS THAN 3 MPH 1976-1977

TABLE 31 MONTHLY CARBON MONOXIDE AVERAGES Ug/M^3

Date	47th & Banfield**	19th & Multnomah	M.P. 1.46**	20th & Sandy	21st & Broadway	22nd & Burnside
10/75	9.2	5.4	8.9	6.9	5.6	-
11/75	7.0	3.9	6.7	5.1	3.8	3.2
12/75	6.2	2.3	4.4	3.4	2.4	3.8
1/76	5.2	2.7	5.4	3.3	2.6	3.8
2/76	3.3	1.8	3.7	2.2	1.8	2.6
3/76	4.3	2.2	3.2	2.4	-	-
Av 75/76	5.9	3.1	5.2	3.8	3.2	3.4
10/76	6.2	-	5.3	4.3	3.3	3.8
11/76	6.7	3.2	6.7	5.1	5.2	4.2
12/76	6.0	2.3	4.3	3.3	2.3	3.9
1/77	5.9	3.8*	5.5*	4.4	2.6	4.2
2/77	4.4	2.7*	4.1*	3.3	2.6	3.3
3/77	4.6*	1.6*	3.1*	-	-	-
Av 76/77	5.6	2.7	4.8	4.1	3.2	3.9
Av 75/77	5.8	2.9	5.0	3.9	3.2	3.6

*The starting time of the 12-hour sampling period was changed from 0700 hours to 1200 hours

**The 47th & Banfield and M.P. 1.46 sites are located within the highway right-of-way.

TABLE 32 8-HOUR CARBON MONOXIDE VIOLATIONS*

Date	47th & Banfield	19th & Multnomah	M.P. 1.46	20th & Sandy	21st & Broadway	22nd & Burnside
10/75	4	0	2	0	0	0
11/75	2	0	2**	0	0	0
12/75	1**	0	0	0	0	0
1/76	0	0	0	0	0	0
2/76	0	0	0	0	0	0
3/76	0	0	0	0	0	0
10/76	0	0	0	0	0	0
11/76	1**	0	0	0	0	0
12/76	0	0	1	0	0	0
1/77	2**	0	2	0	0	0
2/77	0	0	0	0	0	0
3/77	0	0	0	0	0	0

* To violate CO 8-hour standards the value must be exceeded more than once annually

** One violation has a missing hour, visual trend inspection was used to determine value. The 47th & Banfield and the 19th & Multnomah sites are located in the highway right-of-way.

High speeds and heavy acceleration product the major portion of the NOx emissions. By attracting traffic to the Banfield Freeway from the arterial streets, average travel speed will increase and NOx emissions will also increase.

There are no physical sources of photochemical oxidants per se. They are formed in the atmosphere as a result of photochemical reactions between hydrocarbons and oxides of nitrogen. The chemical reactions which form these photochemical products are extremely complex and are still not fully understood. Some of the components of smog known to irritate the eye are formaldehyde acrolein, peroxyacyl nitrate, and ozone.[1]

All of these pollutants share three properties. They are all formed by chemical reaction with other pollutants ("chemical"). The reactions forming them proceed much more rapidly in areas with intense sunlight ("photo"). They are extremely reactive chemical substances acting as oxidizing agents ("oxidants"). Due partially to the fact that the photochemical process requires residence time in the atmosphere, photochemical oxidant is not considered on the local level, but is more a regional problem. Hence, it is difficult to determine the exact contribution of this particular project. If the control strategy for the entire Portland metropolitan area continues at its present or a more stringent level, violations of the ambient air quality standard for oxidant should be eliminated.

A small reduction in the emissions of NOx, according to J.D. Caplan, will not produce any reduction in photochemical oxidant without a corresponding large reduction in HC.[2] The total peak hour emissions analysis (Table 33) shows a regional decrease in HC emissions. A slight reduction in photochemical oxidant potential would result. The reduction in HC emissions is due to the increase in speed of the vehicles diverted from the arterial streets to the Banfield Freeway.

Total suspended particulates (TSP) were monitored at the 19th and Multnomah sampling site with one High-Vol Sampler. This type of sampler uses a vacuum pump (50 cfm) to pull an air sample through filter paper 8½x11") (21.59cmx27.94cm) which removes the particulates from the air stream. The filter is then transported to the laboratory for analysis. The particulates collected on filter paper can be weighed to determine the total particulate concentration and then the particulate can be analyzed chemically to determine the lead concentrations. A sample is taken for a 24-hour period from midnight to midnight. From Table 26, it can be seen that transportation is generally not considered one of the major contributors to TSP. However, the combustion of automotive fuel does produce particulate matter due to additive lead that is considered a health hazard. At present, there is no Federal standard for ambient lead, although one may soon be promulgated. The Oregon Department of Environmental

[1] Highway Air Quality (see Appendix E)

[2] Smog Chemistry Points Way to Rational Vehicle Emission Controls (see Appendix E)

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[1] Highway Air Quality (see Appendix E)

[2] Smog Chemistry Points Way to Rational Vehicle Emission Controls (see Appendix E)

Quality (DEQ) has adopted a state standard of 3 ug/m^3 (monthly average). A violation of the existing DEQ lead standard was never recorded during this study. The present phase-down in the amount of lead used as an additive in gasoline will not only reduce ambient lead concentration but will allow the continued use of catalytic converters as a control in vehicle emissions of carbon monoxide and hydrocarbons. From the available data, it was not possible to find any correlation between ambient lead concentrations and existing traffic volumes. Without this correlation and the fact that lead emissions are not particularly speed dependent, no conclusions have been drawn as to the effect of the operation of the HOV lane on ambient lead concentrations.

7.4 Total Emissions Summary

Predictions of total peak hour emissions factors for the two project alternatives were made using an Oregon State Highway Division computer program called ALTEF (ALTitude adjusted Emission Factors). ALTEF is a Fortran program which calculates emission factors for all automobile-related pollutants using EPA methodology outlined in the publication Supplement No. 5 For Compilation of Air Pollutant Emission Factors. Input data consists of study year, county, vehicle mix, percent of vehicles in hot start operation, speeds, and percent of vehicles equipped with catalytic converters. Output consists of two tables for each set of input parameters. The first table (Figure 48) is a matrix for carbon monoxide, total hydrocarbons and nitrogen oxides for cold start operation from 0 to 40 percent, and ambient temperatures from 20^0 to 80^0F. The second table (Figure 49) lists all other emission factors which are not a function of ambient air temperature or operating temperature. The output from ALTEF is included in Appendix A. The emission factors calculated by ALTEF were used in a Total Peak Hour Annual Emission Analysis. The equation used in this analysis was:

Tons of Pollutant/Year = Volume X Roadway length X Emission factor X Conversion Factor

Volume + Peak hour traffic volumes Eastbound PM

Roadway length = distance in miles over which traffic volumes are effective.

Emission factor = computed by ALTEF grams/vehicle-mile

Conversion factor = converts from grams to tons also from days to years.

The result of the analysis are listed in Table 33.

TABLE 33 TOTAL PM PEAK HOUR EMISSION SUMMARY
STUDY YEAR 1977

Project Alternatives	Carbon Monoxide Tons/Yr	Carbon Monoxide Percent	Hydrocarbons Tons/Yr	Hydrocarbons Percent	Nitrogen Oxides Tons/Yr	Nitrogen Oxides Percent
No Build	157.79	100	22.34	100	15.19	100
Build (Banfield Traffic Only)	158.99	101	22.79	102	15.83	104
Build (Minus Arterial Reduction)	122.65	78	19.08	85	14.59	96

(Percent shows each pollutant relative to the No Build Alternative)

TABLE 34 PM PEAK HOUR EFFICIENCY ANALYSIS
STUDY YEAR 1977

Project Alternatives	Carbon Monoxide Lbs/Per*	Carbon Monoxide Percent	Hydrocarbons Lbs/Per*	Hydrocarbons Percent	Nitrogen Oxides Lbs/Per*	Nitrogen Oxides Percent
No Build	1.184	100	0.026	100	0.018	100
Build (Banfield Traffic Only)	0.170	92	0.024	92	0.017	94
Build (Minus Arterial Reduction)	0.131	71	0.020	77	0.016	89

* Lbs/per. - the number of pounds of pollutant emitted for every person traveling the corridor in a year.

Percent - shows each pollutant relative to the No Build Alternative.

VEHICLE EMISSION FACTORS STUDY YEAR 1985 COUNTY-DESCHUTES
AP-42 SUPPLEMENT 5 LOW ALTITUDE

--------CATALYTIC CONVERTOR DATA--------

TYPE	PERCENT	SPEED	BEGIN	THRU	PERCENT EQUIPPPED DURING	AFTER	HOT START PERCENT
LDV	60.00	45	1975	1978	75.0	100.0	27
LDT	29.00	45	1975	1978	50.0	75.0	27
HDVG	6.00	43			CATALYSTS NOT CONSIDERED		
HDVD	5.00	43			CATALYSTS NOT CONSIDERED		

PERCENT COLD OPERATION

TMP	POL	0	5	10	15	20	25	30	35	40
20	CO	9.27	13.02	16.78	20.54	24.30	28.05	31.81	35.57	39.33
	HC	2,86	3.21	3.57	3.92	4.27	4.63	4.98	5.33	5.69
	NO	5.83	5.81	5.78	5.76	5.73	5.71	5.68	5.66	5.63
25	CO	9.66	13.05	16.44	19.82	23.21	26.60	29.99	33.38	36.77
	HC	2.99	3.25	3.55	3.86	4.17	4.47	4.78	5.09	5.39
	NO	5.25	5.23	5.71	5.69	5.66	5.64	5.62	5.60	5.58
30	CO	9.97	13.01	16.05	19.09					
	HC	2.99	3.26	3.53	3.79					
	NO	5.67	5.65	5.63	5.60					
35	CO	10.20	12.91	15.62	18.00					
	HC	3.03	3.26	3.49						
	NO	9.59	5.58	5.56						
40	CO	10.37	12.77	15.17						
	HC	3.05	3.25	3.45						
	NO	5.51	5.50	5.00						
45	CO	10.47	12.57							
	HC	3.05	3.20							
	NO	5.43								
50	CO									
	HC									
	NO									
55	CO									
	HC									
	NO									
60	CO									
	HC									
	NO									
65										
70										
75										
80										

Ambient Air Temperature (^{o}F)

Percent of vehicles operating in a "hot start" condition

Percent of vehicles operating in a "cold" start condition. As can be seen, values for each 5% increment from 0 to 40% are given.

The remainder of vehicles excluding heavy duty trucks are in a "hot stabilized" condition

NOTE: All emission factors are express in grams per mile.

POLLUTANT:
CO = Carbon Monoxide
HC = Hydrocarbons
NO = Nitrogen oxides (NO_x)

KEY TO VEHICLE TYPES

LDV = Light Duty Vehicle (Gasoline powered passenger automobiles)
LDT = Light Duty Truck (Gasoline-powered trucks under 8,500 gvw
HDVG = Heavy Duty Vehicles(Gasoline powered + 8,500 gvw)
HDVD = Heavy Duty Vehicle (Diesel)

HC FACTOR INCLUDES 1.50 GM/MI CRANKCASE AND EVAPORATIVE EMISSIONS

FIGURE 48 ALTEF PROGRAM SAMPLE OUTPUT

VEHICLE EMISSION FACTORS
AP-42 SUPPLEMENT 5

STUDY YEAR - 1985 COUNTY - DESCHUTES

LOW ALTITUDE

TYPE	PERCENT	SPEED	CATALYTIC CONVERTOR DATA BEGIN	THRU	PERCENT DURING	EQUIPPED AFTER	HOT START PERCENT
							27
			1975	1978	75.00	100.00	27
LDV	60.00	45	1975	1978	50.00	75.00	
LDT	29.00	45			CATALYSTS NOT CONSIDERED		
HDVG	6.00	43			CATALYSTS NOT CONSIDERED		
HDVD	5.00	43					

VEHICLE EMISSION FACTORS
FOR MISCELLANEOUS POLLUTANTS

POLLUTANT		EMISSION FACTOR GM/MI
1. TOTAL EXHAUST PARTICULATE		0.1729253
2. LEAD		
	LESS THAN 0.3 MICRON	0.0022064
	0.3 TO 1.0 MICRON	0.0008826
	1.0 TO 9.0 MICRON	0.0017651
	GREATER THAN 9.0 MICRON	0.0039715
	TOTAL LEAD	0.0088255
3. TIRE PARTICULATE		0.2549999
4. TOTAL SULFUR OXIDES		0.2911799
5. SULFURIC ACID	MINIMUM	0.0122524
	MAXIMUM	0.0361713

FIGURE 49 ALTEF PROGRAM - MISCELLANEOUS POLLUTANTS

The traffic data used in the air quality analysis was for the p.m. peak hour between 39th and 74th on the Banfield. The p.m. peak hour traffic was used because the traffic volumes were the largest. However, the possible advantages from the change in traffic due to the operation of the HOV lanes are less in the p.m. than in the a.m. as noted in the traffic analysis. Therefore, any benefits shown by the p.m. traffic will be reflected even more so by the a.m. traffic.

The tonage of pollutants per year figures for the Build (i.e. the HOV lanes as constructed) and the No Build alternatives do not accurately reflect some of the subtle traffic differences involved in the operation of the HOV lanes. The fact that there is no specific traffic data from the period before the HOV lanes were built makes a comprehensive lane-by-lane analysis impossible. (Lane-by-lane traffic data was collected during HOV operation.) It is only through the comparison of lane-by-lane traffic data for the periods before and after HOV operation that the minor changes in air quality could have been determined.

From the Analyses of Traffic Flow characteristics it was shown that 390 fewer vehicles are using the city streets. Rather than add the pollutant burden produced by the arterial streets to that for both the Build and No Build, a simplified approach was used. Since the HOV lanes have reduced traffic on the arterial streets, this reduction was subtracted from the pollutant burden produced by the Build Alternative.

Thus, the tonnage per year figures for the Build Alternatives (minus Arterial Reduction) was computed by subtracting the tons of pollutants produced by the vehicles diverted from the arterial streets from the Build Alternative.

An attempt was also made to compare the efficiencies of the Build and No Build alternatives. This was accomplished by calculating the pounds of pollutant per person-year. A summary of these calculations can be found in Table 34. From the table, it can be seen the HOV lanes are moving more people while producing eight percent less pollution per person.

7.5 Summary

The obvious way to reduce transportation related pollutants is to reduce the number of vehicles. As discussed in the State Clean Air Act Implementation Plan a reduction in the number of vehicles could result from an increase in vehicle occupancy. The purpose of this analysis was to determine if a change in the vehicle occupancy rate resulted from the operation of the HOV lanes and whether that change resulted in a reduction in traffic volumes. Further, it was necessary to determine if reduced traffic volumes corresponded to reduction in transportation related pollutants. A peak hour analysis of pollutant emissions resulting from the Banfield Freeway during HOV operation showed a two percent increase in CO and HC emissions over what would have been anticipated from this facility without the HOV lanes. However, this increase corresponded to a five percent

increase in traffic volumes and a ten percent increase in total vehicle occupants as compared to that which was anticipated. However, for those critical receptors located along the Banfield Freeway, the HOV lanes have added slightly to the potential for elevated pollutant concentrations.

In examining the traffic data for the parallel arterials, there has been an overall reduction in pollutants as a result of the HOV lane operation. The reduction in pollutants due to a three percent decrease in traffic on the arterial streets more than offsets the increase in pollutants due to the increase in volumes on the Banfield Freeway. However, on an actual vehicle number basis, more vehicles were attracted to the Banfield Freeway than were reduced from the arterial streets. The Banfield Freeway has been able to absorb this growth without adding significantly more pollufants to the regional air shed. The reason the pollutant levels have not risen higher is due to the speed dependancy of emission factors. (CO and HC emission factors are significantly less for high speeds.)

Based on a regional total emissions analysis, the Banfield Freeway with the HOV lanes has beneficially reduced total emissions by about 14 percent while carrying 20 percent more people than the same facility in 1975 without HOV lanes. While the major region-wide emission reduction is best for CO, the reduction in HC and NOx emissions should reduce the potential for photochemical oxidant potential. The recorded lead concentrations are well below standard and do not appear to be appreciably affected by the regional traffic changes noted in this study.

7.6 Conclusions

1. Total emissions of all automotive pollutants have shown a short-term increase immediately adjacent to the Banfield Freeway, based on a comparative total emissions analysis. Increases in specific local concentrations could be expected to exhibit a similar, but not necessarily significant increase. During the study period no violations of the air quality standards for CO, NOx or lead were measured at any location outside the highway right-of-way.

2. A significant short-term reduction in total pollutant emissions resulting from vehicle operation on major arterial streets in the study area was noted. The net total emissions from these facilities and the Banfield Freeway was also less than what would have been predicted without the HOV lane operation.

3. The Banfield Freeway with HOV operation moves more people with less pollution emitted on a per person basis.

8.0 FUEL SAVINGS

The objective of the HOV lane project was to "provide a time and fuel savings to the traveler". The "fuel savings" portion of this objective was intended to mean that the project should reflect an overall reduction in the amount of fuel used by commuters when compared to the projected fuel consumption under a "No Build" condition.

The amount of fuel savings was obtained by determining the amount of automobile travel distance saved as a result of the HOV lanes, and dividing this figure by the average fuel consumption (MPG) for vehicles in Multnomah County.

The origin/destination and mode change responses to the 1977 Banfield User Survey were used to establish "trips not taken" and their length. The average fuel consumption for vehicles in Multnomah County was determined to be 15.36 miles per gallon (6.53 km/l). This figure was derived from Environmental Protection Agency fuel consumption estimates which are based on the percent distribution of vehicle age and type of driving conditions being considered. The age distribution of Multnomah County vehicles was obtained from DMV vehicle registration records, and the average driving condition was considered to be a mixture of city and freeway driving.

IN THE FOLLOWING EVALUATIONS OF FUEL SAVINGS BY TRANSIT AND CARPOOLS, THE MONTH OF JUNE 1977 WAS CONSIDERED REPRESENTATIVE AND USED TO PROJECT ANNUAL RIDERSHIP AND CARPOOL NUMBERS.

8.1 Transit Rider Fuel Savings

The evaluation of transit savings has been limited to the Banfield Flyers only, since other buses use the HOV lanes for only part of their trip and have many short-haul passengers. The Flyers run express from the park-and-ride lots to downtown Portland and have no short-haul passengers. The two Banfield Flyer lines are discussed separately in the following paragraphs:

a. Line #90 Mall 205, 18.2 miles (29.3km) round trip

There were 127 persons riding on this bus line each day. The bus ridership survey indicated that 44 percent of these were new riders and of these new riders, 63 percent previously drove their automobiles on the Banfield. This produced a total of 35 people no longer driving their car as a result of the HOV lanes. These 35 people commuted a total of 160,160 miles (256,256km) per year. If they had continued to use their automobiles, their fuel consumption would have been 10,427 gallons (39,466 l) per year at 15.36 MPG (6.53km/l). Instead, these people traveled in three buses and consumed 3,174 gallons (12,014 l) per year (Tri-Met buses average 4.3 MPG (1.83km/l) for a net savings of 7,253 gallons (27,453 l) per year.

b. Line #91 Fairview, 24 miles (38.6km) round trip

Following the same procedure as for Line #90 above, 140 new riders who previously drove automobiles were gained. These 140 people commuted a total of 840,000 miles (1,352,000km) per year. If they had continued to use their automobiles, their fuel consumption would have been 54,688 gallons (88,000 l) per year at 15.36 MPG (6.53km/l). Instead, they traveled in seven buses and consumed a total of 9,767 gallons (86,970 l) per year for a net savings of 44,921 gallons (170,000 l) per year.

8.2 Carpool Fuel Savings

Fuel consumption reduction made possible by persons carpooling are determined for the peak rush hours only and projected for the full HOV lane hours.

8.2.1 Peak Hours Only

The figures used are obtained from the Banfield HOV lane monitoring program and cover the AM period 7:00-8:00 and the PM period 4:30-5:30. Percentages and distances traveled are derived by using the Carpool Users Survey taken in November 1976.

a. Present Peak Hours Fuel Consumption of HOV Lanes

The HOV lane monitoring program counted 173 HOV lane carpool vehicles westbound during the AM peak hour. The eastbound count was 242 carpool vehicles in the HOV lane during the PM peak hour.

Westbound Carpool Fuel Consumption

Travel Percent	Distance Traveled	Carpool Vehicles	Daily Vehicle Miles (DVM)
2.0	4.0	3.5	14.0
22.5	5.0	38.9	194.5
1.0	6.0	1.7	10.2
32.7	8.6	56.6	486.8
6.1	10.6	10.6	112.4
5.1	15.0	8.8	132.0
13.3	15.1	23.0	347.3
2.0	17.3	3.5	60.1
1.0	18.0	1.7	30.6
10.2	18.5	17.6	325.6
4.1	20.0	7.1	142.0
100.0		173.0	1,856.0

Eastbound Carpool Fuel Consumption

Travel Percent	Distance Traveled	Carpool Vehicles	Daily Vehicle Miles (DVM)
2.0	4.0	4.8	19.2
22.5	5.0	54.5	272.5
1.0	6.0	2.4	14.4
32.7	8.6	79.1	680.3
6.1	10.6	14.8	156.9
5.1	15.0	12.3	184.5
13.3	15.1	82.3	487.7
2.0	17.3	4.8	83.0
1.0	18.0	2.4	43.2
10.2	18.5	24.7	457.0
4.1	20.0	9.9	198.0
100.0		242.0	2,597.0

The carpool vehicles had traveled a total of 4,453 miles (7,124.8km) a day. The average motor vehicle in Multnomah County gets 15.36 MPG (6.53km/l) which means that the carpool vehicles consumed 206.3 gallons (783.9 l) of fuel per day or 72,477 gallons (275,412.60 l) for a 250 working day year.

8.2.2 Carpool Fuel Savings For Full HOV Lane Hours

The westbound HOV lane hours (6:30-9:30 AM) carry 212 percent of the peak hour (7:00-8:00 AM) volume and the eastbound HOV lane hours (3:30-6:30 PM) carry 270 percent of the peak hour (4:30-5:30 PM) volume.

	Total Distance Traveled During The Peak Hour		Percent of Peak Hour		
Westbound	1,856 Miles	X	212%	=	3,935
Eastbound	2,597 Miles	X	270%	=	7,012
			Distance Saved		10,947 Miles

During the full HOV lane hours an estimated 10,947 vehicle miles (17,512.2km) are saved daily. At 15.36 MPG (6.5km/l), 713 gallons (2,709.41) of fuel are saved daily, with an annual savings of 178,174 gallons (677,061 l).

8.3 Fuel Consumption Savings For Full HOV Lane Hours For Carpool And Transit Per Year

The Banfield Flyers and carpoolers save a total of 230,354 gallons (875,345.2 l) of fuel annually. At 62 cents per gallon, (3.81) a $142,819 savings is realized. By combining the savings in travel time (Section 3.3) with the fuel savings, a total of approximately $404,819 is saved annually as a result of the HOV lanes.

9.0 EVALUATION OF MONITORING PROCEDURES

The monitoring program was based on procedures contained in the Transportation and Traffic Engineering Handbook, Fourth Edition, published by the Institute of Traffic Engineering, and on air quality guidelines received from the Oregon Department of Environmental Quality (DEQ). This section will evaluate the effectiveness of the resultant monitoring procedures.

9.1 Traffic Flow

The traffic flow section is broken down into its individual components for evaluation.

a. Traffic Volume (AWD) Automatic counters with loops placed in the pavement were positioned on the Banfield at 21st Avenue to record all the traffic on the freeway. The volumes are recorded by direction hourly, on a printed tape. The tapes are sent to Salem where they are processed by the Highway Division's Traffic Section. The automatic counters were in position several years before the Banfield HOV lanes were implemented and provided background AWD data.

In calculating the AWD, holidays, weekends, and days of unusual traffic conditions, such as severe accidents or weather, were not included.

b. Average Speed During the speed run, the recording person starts a stopwatch at the beginning of the run and records the time at each check point. This procedure has proven to be satisfactory.

c. Vehicle Occupancy It was found that it is only necessary to count in the peak direction. The counting requires a tremendous amount of concentration and is difficult to continue over a long period of time since the movement of cars tends to have a hypnotic effect on the person making the counts.

The counting should be expanded to count four or more occupants per vehicle. Presently, any vehicle with three or more occupants is listed as having just three persons. A spot count for four or more occupants showed that there were about 11 percent more people in the HOV lanes than were shown by using the existing procedure of recording no more than three people per vehicle. The DART (Downtown Airport Rapid Transit) bus should be included in the HOV lane occupancy counts as a bus. At the present time, they are counted as a non-transit passenger vehicle showing no more than three people.

The counts are felt to be fairly accurate except in extreme light conditions. In the winter the light may be too poor to see inside the car. When the sun is low in the sky it may shine in the observer's face and prevent him from seeing into the car. Windshield glare from the position of the sun may also prevent seeing inside the vehicle.

d. Peak Hour Lane Count The count is accurate but a tedious process. The same hypnotic effect takes place as in occupancy counts. To ease the strain of counting throughout the peak period, it may be adequate to limit continuous counting to the peak hour only, and count at ten minute intervals with five minute breaks for the peak period before and after the peak hour.

e. Arterial Speeds The monitoring of arterial speeds was done at the request of the Department of Environmental Quality for use in analyzing air quality. It does not serve a purpose in monitoring traffic flow on the Banfield as the speeds on arterial streets are determined primarily by signal timings rather than traffic volumes.

f. Arterial Volumes Counting is done by automatic counters and data received is considered to be very accurate.

9.2 Air Quality

It was felt that the lack of background data prior to the opening of the HOV lanes significantly limited the evaluation of air quality data collected during the study period. The components of the air monitoring program are discussed individually.

a. Carbon Monoxide Sampling The sequential bag sampling equipment did not perform to expectations during the first year of operation. Problems included leaking in pumps, sampling bags, and hose connections. Major retrofitting was required before adequate sampling was gained. A problem in calibrating the Ecolyzer was also encountered when using SPAN gas registered at 50 ppm. Readings at lower ppm levels were found to be inaccurate. A ten ppm SPAN gas was substituted with satisfactory results.

The Department of Environmental Quality suggested that the hours of sampling be modified to include suspected high levels of pollution in the late PM hours. The program started out by monitoring from 6:00 AM to 6:00 PM but was adjusted to monitor from 12:00 noon to 12:00 midnight. The DEQ also supplemented the Banfield monitoring program with their own permanent sampling sites at 47th and Sandy Boulevard and in the vicinity of 19th and Multnomah streets.

b. Nitrogen Oxide Sampling During the second year, an environmental test trailer was obtained to test oxides of nitrogen (NO, NOx) and Ozone. It was located at the 19th and Multnomah Street site and started monitoring in August 1976. The testing has continued throughout the remainder of the monitoring program. This system has performed satisfactorily.

c. Lead Particulate Sampling Lead particulate samples were obtained by the use of a high volume sampler located at 19th and Multnomah streets. No major problems were associated with the equipment and the sampling equipment has performed satisfactorily.

d. Meteorological Sampling Meteorological data was obtained by using a portable MRI station located on the roof of a building south of the freeway. Data for the first ten months is suspect due to the inadequate height of the equipment above the roof top. The recording instruments were raised and more accurate readings were subsequently achieved.

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BANFIELD
HIGH OCCUPANCY
VEHICLE LANES

5/30/78

FINAL REPORT
APPENDIX
MARCH, 1978

OREGON DEPARTMENT OF TRANSPORTATION

NOTED

INDEX
APPENDIX A

PROCEDURES USED FOR MONITORING BANFIELD FREEWAY HIGH OCCUPANCY LANES

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APPENDIX A

PROCEDURES USED FOR MONITORING
BANFIELD FREEWAY HIGH OCCUPANCY LANES

TASK A-1 AWD (AVERAGE WEEKDAY TRAFFIC VOLUME TOTALS) FOR THE BANFIELD FREEWAY, THE BANFIELD FREEWAY RAMPS, AND THE MAJOR EAST-WEST ARTERIAL STREETS WITHIN THE BANFIELD CORRIDOR.

1. Purpose

To obtain the AWD for the Banfield Freeway and the AWD for the Banfield Freeway Ramps and the Major Arterial Streets within the Banfield Corridor for correlation with other data gathered under the Banfield Monitoring Program.

2. Time

a. Banfield Freeway AWD Data (two counter units)

(1) Recording of data is a continuous operation using a permanently installed Street-Amet counter.

(2) The type of equipment used requires checking by a trained technician on Wednesday and Friday of each week.

(3) Every Friday the recorded data for the previous week must be removed from the seven-day counter units for submission to Salem.

b. Banfield Freeway Ramp AWD Data (eighteen counter units)

(1) Recording data is performed during one nine-day period each month. Starting the Friday before the first or second full week of a month and continuing through the week to the Monday following the first or second full week. The week is picked on the basis of holidays, workload of the technician, etc. Weeks with holidays should be avoided.

(2) The type of equipment used requires that the technician checks the equipment each weekday during this operation.

(3) Every weekday during the week of operation the technician shall collect the recorded data from each counter.

c. Major East-West Arterial Streets AWD Data (eighteen counters)

(1) Recording of data is performed during one nine-day period each month. Starting on the Friday before the third of fourth full week of a month and continuing through the week to the Monday following the third or fourth full week. The week picked is based on holidays, workload of the technician, lack of conflict with data gathering in Item b. above, etc. Weeks should be avoided that have holidays in them.

(2) The type of equipment used requires that the technician checks the equipment during each weekday during this operation.

(3) Every weekday during the week of operation the technician shall collect the recorded data from each counter.

3. Place

a. Banfield Freeway (Note: seven lanes require two counters and seven loop detectors, three eastbound and four westbound).

(1) Eastbound at 21st Ave. at the permanent counter location with the recording equipment located under the southeast corner of the 21st Ave. structure.

(2) Westbound at 21st Ave. at the permanent counter location with the recording equipment located under the southeast corner of the 21st Ave. structure.

b. Banfield Freeway Ramps (Note: 17 off-ramps require 18 counters and loop detectors due to two lanes on the Holladay St. off-ramp westbound).

(1) Eastbound Ramps Count (11 locations)

(a) Third Ave. on-ramp

(b) Grand Ave. on-ramp

(c) 16th Ave. on-ramp

(d) 33rd Ave. off-ramp

(e) 39th Ave. off-ramp southbound

(f) 39th Ave. off-ramp northbound

(g) 39th Ave. on-ramp

(h) 57th Ave. off-ramp

(i) 60th Ave. on-ramp

(j) 68th Ave. off-ramp

(k) 82nd Ave. off-ramp

(2) Westbound Ramp Counts (6 locations)

(a) 82nd Ave. on-ramp

(b) 58th Ave. on-ramp

(c) 42nd Ave. off-ramp

(d) 37th Ave. on-ramp

(e) 33rd Ave. on-ramp

(f) Holladay off-ramp

c. Major East-West Arterial Streets

(1) Eastbound (Note: eight lanes require eight counters)

(a) Burnside at 21st - 2 lanes

(b) Sandy Blvd. at 21st - 2 lanes

(c) Sandy Blvd. at 41st - 2 lanes

(d) Weidler at 21st - 2 lanes

(2) Westbound (Note: 11 lanes require 11 counters)

(a) Burnside at 21st - 2 lanes

(b) Sandy Blvd. at 21st - 3 lanes

(c) Sandy Blvd. at 41st - 2 lanes

(d) Broadway at 21st - 4 lanes

4. Equipment Required

a. Recording Equipment for the Banfield Freeway

(1) Two permanent traffic counters with seven loop detector amplifiers each with a permanent lane loop. Street-Amet equipment.

(2) Rolls of recorder tape to be used in the counters.

(3) This unit is powered by 110 volt service at the location. No batteries are required.

b. Recording Equipment for the Banfield Freeway Ramps

(1) 18 portable traffic counters each with a loop detector amplifier. Street-Amet Model MR equipment.

(2) 18 permanent lane loops that are installed in the roadway pavement.

(3) Rolls of recorder tapes.

(4) 18 Gates rechargeable dry cell batteries.

NOTE: Extra counters, tapes, and batteries should always be carried by the technician.

c. Recording equipment for the Major East-West Arterial Streets

(1) 19 portable traffic counters each with a loop detector amplifier. Street-Amet Model MR equipment.

(2) 19 permanent lane loops that are installed in the roadway pavement.

(3) Rolls of recorder tapes.

(4) 18 Gates rechargeable dry cell batteries.

NOTE: Extra counters, tapes, and batteries should always be carried by the technician.

d. One vehicle for installation, servicing, and picking up units. As a minimum the vehicle should be of the 1/2-ton carryall variety. A 1-ton van is generally preferred by the technicians.

e. Battery charger is located at the Traffic Technician's office.

f. Forms for recording hour totals by the day titled "Automatic Recorder Traffic Data by Day and Hour". Figure A-1.

g. Miscellaneous pens, pencils, and hand tools.

h. Keys for entry to recorders, etc.

5. Personnel Required

One trained technician is required as a minimum. Additional help may be required from time to time.

6. Procedure

a. Banfield Freeway

(1) The permanent recorder is located just under the southeast corner of the 21st Ave. structure. Best access is from 21st Ave. around the southeast corner of the bent.

(2) The technician using key unlocks the cabinet and opens door to expose the counters and the loop amplifiers.

(3) Check all loop amplifiers to see that they are turned correctly.

(a) if the amplifier is not working, record the direction and lane involved.

(b) Adjust unit with the tuning knob until it is adjusted to detect vehicles correctly.

(c) If the unit fails to work even after adjustment, replace with spare unit and return bad unit to Salem Shops for repair.

OREGON STATE HIGHWAY DEPARTMENT
Metropolitan Section

AUTOMATIC RECORDER TRAFFIC DATA BY DAY AND HOUR

Street_____ Station_____ Direction_____

Location_____ Year_____

Day of Week / Date (Month & Day) / Hour of Day		Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
A.M.	12-1							
	1-2							
	2-3							
	3-4							
	4-5							
	5-6							
	6-7							
	7:00-7:15							
	7:15-7:30							
	7:30-7:45							
	7:45-8:00							
	8:00-8:15							
	8:15-8:30							
	8:30-8:45							
	8:45-9:00							
	9-10							
	10-11							
	11-12							
P.M.	12-1							
	1-2							
	2-3							
	3-4							
	4:00-4:15							
	4:15-4:30							
	4:30-4:45							
	4:45-5:00							
	5:00-5:15							
	5:15-5:30							
	5:30-5:45							
	5:45-6:00							
	6-7							
	7-8							
	8-9							
	9-10							
	10-11							
	11-12							
Total for 24 hrs								
24 hr adjusted								

FIGURE A-1

(4) Check counter units and recording tape rolls.

(a) Place new rolls of recorder tape in the units when roll appears too small to last until the next scheduled visit. This is to be done on Wednesday only.

(b) On Friday check and remove used part of recorder tape for submission to the Traffic Engineer, Salem, Oregon.

(1) NOTE: All of these recorder tapes are sent weekly to the Traffic Engineer, Salem, Oregon, where they are encoded and the information is stored in the computer.

(2) Salem computes monthly AWD from ADT information and returns computer readout to Technical Services at Metro.

(c) Have all malfunction of equipment repaired or corrected immediately.

(5) After final check and retrieval of tapes (as required) are completed, make sure that the equipment cabinet is closed and locked.

(6) Make sure to return all equipment and used tapes to the vehicle.

(7) Continue normal routine.

b. Banfield Freeway Ramps (Note: Permanent loops have been installed on each ON and OFF ramp with feed wires run to a location for setting up portable counters).

(1) During the week preceding recording data the technician must make sure that all equipment is working and batteries are charged and ready to go by Friday.

(2) On the Friday preceding the week data is to be taken, the technician will install and start all of the portable counters required using the following procedure.

(a) Connect portable unit to the loop wires at each location.

(b) Turn on the unit and allow the loop amplifier time to warm up before adjusting fine tuner.

(c) Adjust the loop amplifier so that it is detecting vehicles passing over the loops.

(d) Make sure the counter is working, roll or recorder tape is correctly installed, and the time of day setting is correct.

(e) Make sure unit is secured and locked before proceeding to next location.

(f) Continue the above procedure at all of the 18 units required.

NOTE: If any unit fails to work correctly, replace it with spare unit. Return bad unit for repairs.

(3) The technician must check each of the counter units once a day, Monday through Friday, during the week data is taken. The following general procedure will be followed for each counter location.

(a) Unlock the counter unit.

(b) Check the loop amplifier unit, adjust if necessary.

(c) Check battery, replace if necessary.

(d) Remove printed portion of tape marking it with the date, time, location, etc. for identification.

(e) Replace tape roll, if required.

(f) After all checking is completed, make sure unit is secure and locked before proceeding to the next location.

(g) Continue the above procedure for all 18 units.

NOTE: If any unit fails to work after adjustment is tried, replace with spare unit. Return bad unit for repairs.

(4) On the Monday following the test week, the technician must shut off and retrieve all of the portable counters and equipment. The following general procedure will be followed for each counter location.

(a) Unlock the counter unit.

(b) Check loop amplifier to see that it is still working.

(c) Remove the printed portion of the tape and mark it with the date, time, location, etc., for identification.

(d) Turn off unit and disconnect loop feed wires.

(e) Return all portable equipment to vehicle for return to office.

(f) The exception to the above operation is that if the recorder failed to operate for any period of time at any one location, the recorder would continue working through the same period of time.

Example: If the recorder failed to work from Tuesday's check to Wednesday's check, the recorder would be maintained through Wednesday.

(5) Each day that counter roll tapes are collected, the following procedure shall be followed:

(a) Upon return to the office each day, the technician shall encode all counter roll tapes hourly totals onto weekly data sheets titled "Automatic Recorder Traffic Data by Day and Hour". Use one form for each On or Off ramp as follows: (Figure A-1)

(1) Fill out heading as required on the form.

(2) Date the columns using only the Monday through Friday columns as per the recorder tape dates.

(3) Enter the hourly totals matching the hour on the form with those on the recorder tapes.

(4) Continue this operation each weekday until the form is completed with hourly totals for each weekday. Note: Equipment failures may require that hourly totals for weekday be taken from a two-week period. If Tuesday and Wednesday are lost during the first week, then Tuesday and Wednesday of the following week would be used to replace them.

(5) Multiple lanes (2 or more recorders on one ramp) must be added when entering on forms.

(b) When the forms are completed for all the Off and On ramps, do the following:

(1) Store all recorder tapes used for encoding forms for a period of 30 days minimum after the work is done.

(2) Make copies of all weekly forms (5.a above) and file original copies for future record.

(3) Figure A-2 is a monthly summary form of Figure A-1.

c. Major East-West Arterial Streets

AWD Data is obtained by following the same procedure as used for the Banfield Freeway Ramps, procedures b, on previous sheets. Figure A-3 is a monthly summary form for the AWD Data.

FREEWAY RAMPS WEEKDAY TRAFFIC

EASTBOUND											
3rd AVE ON											
GRAND AVE ON											
16th AVE ON											
33rd AVE OFF											
39th AVE OFF SOUTH											
39th AVE OFF NORTH											
41st AVE ON											
57th AVE OFF											
60th AVE ON											
68th AVE OFF											
82nd AVE OFF											
WESTBOUND											
82nd AVE ON											
58th AVE ON											
42nd AVE OFF											
37th AVE ON											
33rd AVE ON											
HOLLIDAY ST	OFF										

FIGURE A-2

CITY STREETS WEEKDAY TRAFFIC

EASTBOUND

BURNSIDE at 21st

SANDY BLVD at 21st

SANDY BLVD at 41st

WEIDLER at 21st

WESTBOUND

BURNSIDE at 21st

SANDY BLVD at 21st

SANDY BLVD at 41st

BROADWAY at 21st

FIGURE A-3

TASK A-2 VEHICLES PER LANE COUNT

1. Purpose

To gather data for determining the number of vehicles using each lane, the volumes for ¼-hour periods for peak period determination, and volumes of truck and bus traffic, excluding Tri-Met buses, which are using the Banfield Freeway during peak hours.

2. Time

The lane counts are performed on Tuesday, Wednesday, and Thursday during the fourth full week of each month. The westbound lane counts are taken from 6:00 to 9:00 A.M. and the eastbound lane counts are taken from 3:30 to 6:30 P.M.

3. Place

The vehicle lane counts are to be observed from the 47th Ave. undercrossing structure.

4. Equipment needed for Vehicle Lane Counts

a. One vehicle for transportation to and from the counting location at 47th Ave. undercrossing structure.

b. Two four-button traffic counter boards.

c. Pencils and/or pens.

d. Wrist watch, pocket watch, or clock in good working order and set to the correct time of day.

e. Proper forms as listed below.

(1) 47th Ave. undercrossing westbound (6:00 to 9:00 A.M.). (Figure A-4)

(2) 47th Ave. undercrossing eastbound (3:30 to 6:30 P.M.). (Figure A-5)

5. Personnel required for the Vehicle Lane Counts

Two persons are required as follows:

a. One person to count the vehicles in the HOV Lane and the Center Lane (excluding Tri-Met buses).

b. One person to count the vehicles in the Right Lane and/or Right Lanes (excluding Tri-Met buses).

BANFIELD FREEWAY VEHICLE LANE COUNT

DATE_____ WEATHER_____ CREW_____

47th Avenue Under-Xing Westbound	(Start) TIME	(End) TIME	Right Lane	Center Lane	HOV Lane	COMMENTS
	6:00am	6:30am				
	6:30	7:00				
	7:00	7:30				
	7:30	8:00				
	8:00	8:30				
	8:30	9:00				
	9:00	9:30				
TOTAL						

FIGURE A-4

BANFIELD FREEWAY VEHICLE LANE COUNT

DATE_____ WEATHER _____ CREW_____

47th Avenue Under-Xing Eastbound	(Start) TIME	(End) TIME	Right Lane	Center Lane	HOV Lane	COMMENTS
	3:30pm	4:00pm				
	4:00	4:30				
	4:30	5:00				
	5:00	5:30				
	5:30	6:00				
	6:00	6:30				
TOTAL						

FIGURE A-5

6. Procedure

a. Both persons who are making the vehicle counts should drive in one vehicle to the designated observation point with all required equipment. Arrival should be timed to allow a minimum of five minutes before starting time for final set-up.

b. The person making the vehicle count for the right lane does the following:

(1) Using one of the counting boards and starting at the designated starting time, the person

(a) Counts all vehicles, excluding Tri-Met buses, by depressing a button on the counter board using one column button on the board per lane.

(b) Counts all trucks, e.g. semi-trucks, dump trucks, delivery trucks, school buses, Greyhound and Trailways buses, etc. but still excluding Tri-Met buses, by depressing the button on the counter using the second column button (one button per lane).

(2) Every 1/2 hour, the person records by lane the running totals for b.(1) above using two separate record sheets for Items b.(1)(a) (two record sheets for each lane.

(3) Continue the count for the entire three-hour period and record the 1/2 hour running total as described in b.(1)(a) and b.(1)(b) above.

c. The person making the vehicle count for the HOV lane and center lane does the same as the counter for the right lane. As per Note above in b.(1)(b), this requires four column buttons and four record sheets for running totals.

d. Remember to exclude Tri-Met buses from all counts.

e. Under comments, note any observed conditions that may change counts, e.g. accidents, breakdowns, traffic backing up, coming to a stop, etc. Use correct time period on record sheet regarding notes and/or show time of observation if more entry room is required.

f. Cease vehicle count at the designated time. Make sure all entries on the record sheet are completed.

TASK A-2 (Office Supplement) PEAK HOUR VEHICLE LANE COUNTS AT 47TH

1. Purpose

To obtain in usable form the Peak Hour Vehicle Lane Count from the Vehicle Lane Count Sheets that are taken each month for the Banfield Monitoring Program.

2. Time

Processing of the Vehicle Lane Counts will be made as soon after the collection of the data as permitted by the testing schedule and after the Vehicle Occupancy Rates have been calculated and entered on the Current Banfield Freeway Traffic Study Summary Sheet.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N.E. Glisan St., Portland, Oregon.

4. Equipment Required

a. The Banfield Freeway Vehicle Lane Count Sheets

b. Adding machine, calculator, or etc.

c. Pencil and/or pen

d. Current Banfield Freeway Traffic Study Summary Sheet

5. Procedure

Determination of the Average Number of Vehicles using the Banfield Freeway during the peak hours (7-8 A.M. Westbound and 4:30-5:30 P.M. Eastbound)

a. Compare the one-half hour counts and check for:

(1) Accidents

(2) Overt traffic conditions

(3) Adverse weather conditions

(4) Other detrimental conditions

b. If any of the above mentioned are found, that one-half hour count is disregarded as not representative.

c. Separate the Banfield Freeway Vehicle Lane Counts into A.M. and P.M. groups per month by dates and then find and enter the Peak Hour Count on each sheet by adding the two one-half hour counts during the Peak Period

for the following:

(1) Westbound (7-8 A.M.)

(a) HOV Lane

(b) Center Lane

(c) Right Lane

(2) Eastbound (4:30-5:30 P.M.)

(a) HOV Lane

(b) Center Lane

(c) Right Lane

d. Find the Average Peak Hour Lane Count for each individual lane c.(1) (a) thru (c) and c.(2) (a) thru (c) by adding all of the daily Peak Hour totals per lane and dividing by the number of daily totals added together..

e. Enter the Average Peak Hour Lane Counts under d. above on the Current Banfield Freeway Traffic Study Report Summary Sheet as follows:

(1) Peak Hour Lane Counts at 47th Westbound

(a) HOV Lane

(b) HOV Lane carpools (found by using Task A-11)

(c) Center Lane

(d) Right Lane

(e) Total (found by adding the Peak Hour Counts for the HOV Lane, and Right Lane)

(2) Peak Hour Lane Counts at 47th Eastbound

Repeat part e. (1) (a) thru (d) using Eastbound instead of Westbound

TASK A-3 ARTERIAL PEAK HOUR VOLUME DETERMINATION

1. Purpose

To determine the volume of peak hour traffic on arterial streets.

2. Time

Once near the end of each month and after the Automatic Recorder Traffic Data for Arterial Streets is received from the Metro Traffic Engineer's office for the current month.

3. Place

In the office of William McConnel at the Oregon State Highway Division located at 5821 N.E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Adding Machine, Calculator, etc.

b. Pencils, pens, etc.

c. Form titled "City Streets Weekday Traffic" for the summary of data.

d. Automatic Recorder Traffic Data forms for all the arterial streets as follows:

(1) Eastbound

(a) Burnside at 21st

(b) Sandy Blvd. at 21st

(c) Sandy Blvd. at 41st

(d) Weidler at 21st

(2) Westbound

(a) Burnside at 21st

(b) Sandy Blvd. at 21st

(c) Sandy Blvd. at 41st

(d) Broadway at 21st

5. Personnel Required

One person only.

6. Procedure

a. Peak hour weekday volumes on arterial streets westbound are obtained by using the hourly total from 7:00 to 8:00 A.M. from the Automatic Recorder Traffic Data Sheets as listed under Equipment Part d. (2) (a) thru

(d).

(1) Find the average weekday peak hour volumes for each of the listed westbound Arterial Streets by doing the following:

(a) Outline all the daily entries for 7:00 to 8:00 A.M. on the form (normally five days, Monday through Friday).

(b) For each form, add all the daily entries for the peak hour (7:00 to 8:00 A.M.) and divide by the actual number of weekdays added together. This is the average Weekday Volume per hour on the Arterial Street.

(c) On the form, enter the Average Weekday Volume in the Sunday column approximately opposite the hours.

(2) Also enter all the required Peak Hour Volumes under the correct month column on the "Banfield Freeway Traffic Study" Report.

b. Peak hour weekday volumes on arterial streets eastbound are obtained by using the hourly total from 4:30 to 5:30 P.M. from Automatic Recorder Traffic Data sheets as listed above under Equipment Part d. (a) thru (d).

(1) Since the hourly totals recorded are for full hours, to find the average weekday peak hour volume eastbound, the average of two hours (4:00 to 5:00 P.M. and 5:00 to 6:00 P.M.) will be used for the period of 4:30 to 5:30 P.M.

(a) Outline all the daily entries for 4:00 to 5:00 P.M. on the form (normally five days, Monday through Friday).

(b) For each form, add all the daily entries for the two peak hours for each day and divide by the actual number of weekday totals used (should be two times the number of weekdays). This will give the average weekday volume per hour on the arterial street.

(c) On the form, enter the average weekday volume in the Sunday column approximately opposite the hours.

(2) Also, enter all the required Peak Hour Volumes under the correct month column on the "Banfield Freeway Traffic Study" report.

TASK A-4 BANFIELD FREEWAY OCCUPANCY COUNTS

1. Purpose

To determine how many vehicles carry one, two, or more than two persons for the purpose of determining the changes in usage of the Banfield Freeway by the traveling public, effectiveness of the HOV lane, and other related items.

2. Time

The occupancy counts are to be taken between the hours of 6:00 or daylight and 9:00 A.M. westbound and 3:30 and 6:30 or darkness P.M. eastbound on Tuesday, Wednesday, and Thursday of the second full week of the month. Occupancy counts should not be performed for more than three hours per session.

3. Place

The occupancy counts shall be taken from the 47th Ave. structure.

4. Equipment Needed for Occupancy Counts

a. One vehicle for transportation to and from the observation point.

b. Two four-column traffic counter boards.

c. One stop watch in good working order.

d. One wrist watch, pocket watch, or clock in good working order and set to the correct time of day.

e. Pencils and/or pens.

f. Proper forms for occupancy counts as listed below:

(1) Banfield Freeway Occupancy Counts Westbound A.M. Times (two sheets) (Figure A-6).

(2) Banfield Freeway Occupancy Counts Eastbound P.M. Times (two sheets) (Figure A-7).

5. Personnel Required for Occupancy Counts

a. Two persons are required for the operation as follows:

(1) First person for the center and right lane (both westbound and eastbound).

(2) Second person for the HOV lane (both westbound and eastbound).

b. Generally, the first person is in charge of the crew. One must be a licensed operator for driving vehicle to and from counting site.

6. Procedure to be Followed for Making Occupancy Counts

a. Plan arrival time at the observation point to allow five minutes for safely parking the vehicle and setting up before official starting time.

b. Both people set up in the peak traffic direction with each one using four column traffic counter board. The second person also operates the stop watch and keeps track of the time of day.

BANFIELD FREEWAY OCCUPANCY COUNTS

47th St. Under-Xing	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupants	Direction
Date_____	6:03am	6:08am				EAST
Weather_____	6:10	6:20				WEST
Crew_____	6:22	6:27				EAST
Pavement_____	6:29	6:39				WEST
	6:41	6:46				EAST
	6:48	6:58				WEST
	7:00	7:05				EAST
	7:07	7:17				WEST
	7:19	7:24				EAST
	7:26	7:36				WEST
	7:38	7;43				EAST
	7:45	7:55				WEST
	7:57	8:02				EAST
	8:04	8:14				
	8:16	8:21				

FIGURE A-6

BANFIELD FREEWAY OCCUPANCY COUNTS cont'

	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date_____	8:23am	8:33am				WEST
Weather_____	8:35	8:40				EAST
Pavement_____	8:42	8:52				WEST
	8:54	8:59				EAST
WESTBOUND						
EASTBOUND						
WESTBOUND ONLY 7-8:00am						
TOTAL						

FIGURE A-6 cont.

BANFIELD FREEWAY OCCUPANCY COUNTS

47th St. Under-Xing	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date_____	3:33pm	3:38pm				WEST
Weather_____	3:40	3:50				EAST
Crew_____	3:52	3:57				WEST
Pavement_____	3:59	4:09				EAST
	4:11	4:16				WEST
	4:18	4:28				EAST
	4:30	4:35				WEST
	4:37	4:47				EAST
	4:49	4:54				WEST
	4:56	5:06				EAST
	5:08	5:13				WEST
	5:15	5:25				EAST
	5:27	5:32				WEST
	5:34	5:44				EAST
	5:46	5:51				WEST
	5:53	6:03				EAST

FIGURE A-7

BANFIELD FREEWAY OCCUPANCY COUNTS cont'

	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date_____	6:05pm	6:10pm				WEST
Weather_____	6:12	6:22				EAST
Pavement_____	6:24	6:29				WEST
WESTBOUND ONLY						
EASTBOUND ONLY						
EASTBOUND ONLY 4:30-5:30						
TOTAL						

FIGURE A-7 cont.

c. Starting with the peak direction traffic, at the correct starting time as listed below, the stop watch is started by the second person and simultaneously both people start counting occupants per vehicle and recording the vehicle according to the number of occupants by depressing counter buttons one time as follows:

(1) For one occupant, push the button once in column number 1 on the board.

(2) For two occupants, push the button once in column number 2 on the board.

(3) For three or more occupants, push the button once in column number 3 on the board.

d. After 10 minutes has passed on the stop watch the count in the peak direction is stopped and all totals are recorded in the proper columns on the required form.

e. During the next two minute period on the stop watch the two counters are to complete entries as noted above and reposition themselves for counting occupants in the non-peak direction. Make sure that the traffic counter boards are set back to zero.

f. Count of occupants in non-peak direction is conducted for five minutes using the same procedure as for peak direction.

g. Continue rotation of counts between peak and non-peak direction as per times shown on the forms. Time allowed shall always favor the peak traffic direction during the peak hour.

h. Both counters are to conclude the count at the designated time, complete records, and return to office.

i. P.M. count is conducted in the same order as the A.M. count, remember to follow dictated times as per forms.

j. NOTE: If due to short crew, one man only, the count can be performed as follows:

(1) When one person is counting without an assistant, use the counting machine with two separate sets of push button counter boards (six column minimum) or two separate four column traffic counter boards.

(2) Use one set of buttons for the right and center lanes, and the other set of buttons for the HOV lane. The same as required for two counters.

(3) Stop watch is still to be used, but exact 10 and 5 minute cycles do not have to be followed, however the times shall be recorded both starting and stopping if different on the form, and the actual time elapsed on the stop

watch is to be recorded as accurately as possible for the time count was made. This allows a correction factor for adjusting totals to equal 10 and 5 minute periods.

TASK A-4 (Office Supplement No.1) BANFIELD FREEWAY PEAK HOUR VEHICLE OCCUPANCY COUNTS PROCESSING

1. Purpose

To obtain in usable form the needed data for Vehicle Occupancy Rates from the raw data collected for the Banfield Monitoring Program.

2. Time

Processing of the Vehicle Occupancy Counts for the Vehicle Occupancy Rate will be made as soon after the collection of the data as permitted by the testing schedule.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan Street, Portland, Oregon.

4. Equipment Required

a. The Banfield Freeway Vehicle Occupancy Count Sheets

b. Adding machine, calculator, etc.

c. Pencils and/or pens

d. The Current Banfield Freeway Traffic Study Report Summary Sheet.

5. Procedure

a. Determine the average number of one, two, and three-or-more Occupant Vehicles using the HOV lanes and the non-HOV lanes of the Banfield Freeway during peak rush hours.

(1) Look through the filled out count sheets for any problems that are noted and/or made by the original recorder in the comments column.

(2) If any severe problems have occurred during any of the counting periods, the period is not used.

(3) On each sheet using the three 10-minute periods of counting during the Peak Hours (7-8 A.M. & 4:30-5:30 P.M.); total the number of one, two, and three-or-more occupant vehicles and multiply by two to bring them to a full hour count and record on the daily sheets.

(4) Separate the vehicle occupancy count sheets by westbound A.M. and eastbound P.M. time periods.

(5) Find the average number per Peak Hour of One, Two, and Three or more Occupant Vehicles per HOV lane and non-HOV lane by averaging the three day count periods.

b. Determine Peak Hour Occupancy Rates for Westbound (A.M.) using Westbound (A.M.) Occupancy Count Sheets as follows:

(1) Find the Peak Hour Occupancy Rate of people using the HOV Lane by summing the average Peak Hour Totals of One Occupant Vehicles times one plus Two-Occupant Vehicles times two plus three-or-more Occupant Vehicles times three divided by the total number of vehicles recorded in the HOV lane.

(2) Find the Peak Hour Occupancy Rate of people using the non-HOV lanes by summing the average Peak Hour Totals of One Occupant Vehicles times one plus Two Occupant Vehicles times two plus Three-or-more Occupant Vehicles times three divided by the total number of vehicles recorded in the non-HOV lanes.

(3) Find the Peak Hour Occupancy Rate of all people using the Westbound lanes by summing the average Peak Hour Totals of One Occupant Vehicles times one plus Two Occupant Vehicles times two plus Three-or-more Occupant Vehicles times three divided by the total number of vehicles recorded in both the HOV and non-HOV lanes.

c. Determine Peak Hour Occupancy Rates for Eastbound (P.M.) by following the procedure b. (1) thru b. (3) using Eastbound (P.M.) Occupancy Count Sheets.

TASK A-4 (Office Supplement No. 2) BANFIELD FREEWAY PEAK HOUR PERSON PER LANE

1. Purpose

To obtain the Peak Hour Person Per Lane from the raw data collected for the Banfield Monitoring Program.

2. Time

Processing of the Peak Hour Person Per Lane total will be made as soon after the collection of the data as permitted by the testing schedule and after current peak hour occupancy rate and peak hour lane counts at 47th have been completed and added to the Current Banfield Freeway Traffic Study Report Summary Sheet.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. The current Banfield Freeway Traffic Study Report Summary Sheet.

b. Adding machine, calculator, or etc.

c. Pencil and/or pen.

5. Procedure

a. Computation of Peak Hour Person Per Lane, Westbound (7-8 A.M.)

(1) HOV Lane Transit Persons

(a) This is the total number of patrons riding the Tri-Met buses, both regular and Flyer buses, in the HOV lane. This information is furnished by Tri-Met.

(b) Enter this data for HOV Lane Transit, Westbound, on the Banfield Freeway Traffic Study Report Summary Sheet.

(2) HOV Lane Carpool Persons.

(a) Multiply HOV Lane Carpools Westbound from the Peak Hour Vehicle Lane Count at 47th by three.

(b Enter this for HOV Lane Carpool Persons Westbound on the Banfield Freeway Traffic Study Report Summary Sheet.

(3) HOV Lane Total Persons - Add together the following:

(a) HOV Lane Transit Persons from a. (1) (a)

(b) HOV Lane Carpool Persons from a. (2) (a)

(4) HOV Lane People Violators, Westbound.

(a) Multiply the Peak Hour Occupancy Rate for the Westbound HOV Lane by the Peak Hour Vehicle Lane Count for the Westbound HOV Lane.

(b) Subtract Peak Hour Person Per Lane for Westbound HOV Lane Carpool persons found in Part a. (2) (a) from the product found above in Part a. (4) (a).

(c) Enter HOV Lane People violators, Westbound, on the Banfield Freeway Traffic Study Report summary sheet.

(5) Center Lane

(a) Multiply Peak Hour Occupancy Rate for Westbound Center and Right Lanes by Peak Hour Vehicle Lane count for Westbound Center Lane.

(b) Enter in Peak Hour Person Per Lane for Westbound Center Lane on the Banfield Freeway Traffic Study Report Summary Sheet.

(6) Right Lane

(a) Multiply Peak Hour Occupancy Rate for Westbound Center and Right Lanes by Peak Hour Vehicle Lane Count for Westbound Right Lane.

(b) Enter in Peak Hour Persons Per Lane for Westbound Right Lane on the Banfield Freeway Traffic Study Report Summary Sheet.

(7) Total Number of Persons Using the Banfield

(a) Add together the following:

1) Westbound HOV Lane Transit Persons a. (1) (a).

2) Westbound HOV Lane Carpool Persons a. (2) (a).

3) Westbound HOV Lane Violators a. (4) (b).

4) Westbound Center Lane a. (5) (a).

5) Westbound Right Lane a. (6) (a).

(b) Enter in Peak Hour Persons Per Lane for Westbound Total on the Banfield Freeway Traffic Study Report Summary Sheet.

b. Computation of Peak Hour Persons Per Lane, Eastbound (4:30-5:30 P.M.)

Repeat all of a. (1) thru (7) substituting Eastbound for Westbound in all places.

TASK A-5 SUNSET HIGHWAY OCCUPANCY COUNTS

1. Purpose

To determine how many vehicles carry one, two, or more than two persons for the purpose of comparison with a major East-West highway on occupancy rates during the same time periods.

2. Time

The occupancy counts are to be taken between the hours of 6:00 (or daylight) and 9:00 A.M. eastbound, and 3:30 and 6:30 (or darkness) P.M. westbound on the Monday of the second full week of the month. Occupancy counts should not be performed for more than three hours per session.

3. Place

The occupancy counts shall be taken from the Sunset Highway undercrossing of the ZOO-OMSI structure.

4. Equipment Required

a. One vehicle for transportation to and from the observation point.

b. Two four-column traffic counter boards.

c. One stop watch in good working condition.

d. One wrist watch, pocket watch, or clock in good working order and set to the correct time of day.

e. Pencils and/or pens.

f. Proper forms for occupancy counts as listed below:

(1) Sunset Freeway Occupancy Count Eastbound (two sheets). (Figure A-8)

(2) Sunset Freeway Occupancy Count Westbound (two sheets).(Figure A-9)

5. Personnel Required

a. Two persons are required for this operation as follows:

(1) First person for the center and right lane (both eastbound and westbound).

(2) Second person for the left lane.

b. Generally, the first person is in charge of the crew. One of the persons must be a licensed operator for driving the vehicle to and from the counting site.

6. Procedure

a. Plan arrival time at the observation point to allow at least five minutes for safely parking the vehicle and setting up before official starting time.

b. Both persons set up in the peak traffic direction with each one using a four-column traffic counter board. The second person also operates the stop watch and keeps track of the time of day.

c. Starting with the peak direction traffic, at the correct starting time as listed below, the stop watch is started by the second person and simultaneously persons start counting occupants per vehicle and recording the vehicle according to the number of occupants by depressing counter buttons one time as follows:

(1) For one occupant, push the button once in column number 1 on the board.

(2) For two occupants, push the button once in column number 2 on the board.

(3) For Three or more occupants, push the button once in column number 3 on the board.

SUNSET FREEWAY OCCUPANCY COUNTS

OMSI Undercrossing

Date_____

Weather_____

Crew_____

Pavement_____

(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupants	Direction
6:03am	6:08				
6:10	6:20				WEST
6:22	6:27				EAST
6:29	6:39				WEST
6:41	6:46				EAST
6:48	6:58				WEST
7:00	7:05				EAST
7:07	7:17				WEST
7:19	7:24				EAST
7:26	7:36				WEST
7:38	7:43				EAST
7:45	7:55				WEST
7:57	8:02				EAST
8:04	8:14				WEST
8:16	8:21				EAST
					WEST

FIGURE A-8

SUNSET FREEWAY OCCUPANCY COUNTS cont'

	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date_____	8:23am	8:33				EAST
Weather_____	8:35	8:40				WEST
Pavement_____	8:42	8:52				EAST
	8:54	8:59				WEST
WESTBOUND ONLY						
EASTBOUND ONLY						
EASTBOUND ONLY 7:00-8:00am						
TOTAL						

FIGURE A-8 cont.

SUNSET FREEWAY OCCUPANCY COUNTS

OMSI Under-crossing

Date_____

Weather_____

Crew_____

Pavement_____

(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupants	Direction
3:33pm	3:38pm				EAST
3:40	3:50				WEST
3:52	3:57				EAST
3:59	4:09				WEST
4:11	4:16				EAST
4:18	4:28				WEST
4:30	4:35				EAST
4:37	4:47				WEST
4:49	4:54				EAST
4:56	5:06				WEST
5:08	5:13				EAST
5:15	5:25				WEST
5:27	5:32				EAST
5:34	5:44				WEST
5:46	5:51				EAST

FIGURE A-9

SUNSET FREEWAY OCCUPANCY COUNTS cont'

	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date _____	5:53	6:03				WEST
Weather_____	6:05	6:10				EAST
Pavement_____	6:12	6:22				WEST
	6:24	6:29				EAST
WESTBOUND ONLY						
EASTBOUND ONLY						
WESTBOUND ONLY 4:30-5:30						

SPECIAL NOTE***THE MINNESOTA FREEWAY IS COUNTED ON FRIDAY FROM THE AINSWORTH STREET OVERPASS. USE THE SUNSET FREEWAY FORMS BUT SUBSTITUTE MINNESOTA FREEWAY FOR SUNSET FREEWAY. THE SAME IS DONE WITH THE PROCESSING EXCEPT EXCHANGE NORTH FOR WEST AND SOUTH FOR EAST.

FIGURE A-9 cont.

d. After 10 minutes has passed on the stop watch, the count in the peak direction is stopped and all totals are recorded in the proper columns on the required form.

e. During the next two minute period on the stop watch, the two persons are to complete entries as noted above and reposition themselves for counting occupants in the non-peak direction. Make sure that the traffic counter boards are set back to zero.

f. Count of occupants in non-peak direction is conducted for five minutes using the same procedure as for peak direction.

g. Continue rotation of counts between peak and non-peak direction as per times shown on the forms. Time allowed shall always favor the peak traffic direction during the peak hour.

h. Both persons are to conclude the count at the designated time, complete records and return to office.

i. P.M. count is conducted in the same order as the A.M. count. Remember to follow dictated times as per forms.

j. NOTE: If due to short crew, one man only, the count can be performed as follows:

(1) When one person is counting without an assistant, use the counting machine with two separate sets of push button counter boards (six column minimum) or two separate four-column traffic counter boards.

(2) Use one set of buttons for the right and center lanes, and the other set of buttons for the HOV lane. The same as required for two counters.

(3) Stop watch is still to be used, but exact 10 and 5 minute cycles do have to be followed, but the times shall be recorded both starting and stopping if different on the form, and the actual time elapsed on the stop watch is to be recorded as accurately as possible for the time count was made. This allows a correction factor for adjusting totals to equal 10 and 5 minute periods.

TASK A-5 (Office Supplement) SUNSET HIGHWAY PEAK HOUR VEHICLE OCCUPANCY COUNTS PROCESSING

1. Purpose

To determine the percentages and the occupancy rates for vehicles carrying one, two, and three-or-more occupants on the Sunset Highway. This is for the comparison of a major East/West highway with the Banfield Freeway during the Peak Hours.

2. Time

After the completion of the occupancy count, the percentages and rates should be calculated as soon as the work load will permit.

3. Place

William McConnel's office in the Oregon State Highway Division Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Sunset Highway Vehicle Occupancy Count Sheets,

(1) Eastbound (A.M. Sheets)

(2) Westbound (P.M. Sheets)

b. Adding Machine, Calculator, or etc.

c. Pencil and/or pen

d. Current Banfield Freeway Traffic Study Report Summary Sheet.

5. Procedure

a. Determination of Average number of One, Two, and Three-or-more Occupant Vehicles per Peak Hour.

(1) Eastbound

(a) Separate out the A.M. sheets (Usually two, maybe more).

(b) Check the A.M. sheets' comment column for any problems that may have occurred.

(c) On each A.M. sheet, total the three ten-minute periods during the peak hour (7-8 A.M.) and multiply each by 2 (if two 10-minute periods used, multiply by 3; if one 10-minute period used, multiply by 6 to make them into Full Hour Counts for each of the following:

1) One Occupant Vehicles

2) Two Occupant Vehicles

3) Three-or-more Occupant Vehicles

(d) Make a summary of all the A.M. sheets for:

1) One Occupant Vehicles

2) Two Occupant Vehicles

3) Three-or-more Occupant Vehicles

(e) Using the Full Hour Occupancy Count totals of the A.M. vehicles found in Part a. (1) (d) 1) thru 3), find the total number

of One, Two, and Three-or-more Occupant Vehicles.

(2) Westbound

(a) In Part a. (1) (a) thru (e) substitute the following:

1) "Westbound" for "Eastbound"

2) "P.M." for "A.M."

(b) Perform Part a. (1) (a) thru (2) using the above changes.

b. Determination of Percentage of Peak Hour Vehicle Occupancy

(1) Eastbound

(a) To find the percentage of One Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of One Occupant Vehicles in the A.M. as found in Part a. (1) (d) 1) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part a. (1) (e), and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(b) To find the percentage of Two Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of Two Occupant Vehicles in the A.M. as found in Part a. (1) (d) 2) by the total number of One, Two and Three-or-more Occupant Vehicle, which was found in Part a. (1) (e), and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(c) To find the percentage of Three-or-more Occupant A.M. Vehicles, divide the Full Hour Count by Three-or-more Occupant Vehicles in the A.M. as found in Part a. (1) (d) 3) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part a. (1) (e) and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(d) Enter the percentages found in Part b. (1) (a) thru (c) in the proper place on the current Banfield Freeway Traffic Study Report Summary Sheet.

(2) Westbound

(a) In Part b. (1) (a) thru (d) change A.M. to P.M.

(b) Perform Part b. (1) (a) thru (d) using the above changes.

c. Determination of Occupancy Rates

(1) Eastbound

(a) Find the total number of persons traveling in One Occupant Vehicles in the A.M. by multiplying the sum found in Part a. (1) (d) 1) for the A.M. times factor 1.

(b) Find the total number of persons traveling in Two Occupant Vehicles in the A.M. by Multiplying the sum found in Part a. (1) (d) 3) times factor 2.

(c) Find the total number of persons traveling in Three-or-more Occupant Vehicles in the A.M. by multiplying the sum found in Part a. (1) (d) 3) times the factor 3.

(d) Find the sum of the products found in Part c. (1) (a) thru (c).

(e) Divide the sum found in Part c. (1) (d) by the sum found in Part a. (1) (e). Enter answer on the current Banfield Traffic Report Summary Sheet.

(2) Westbound

(a) Change A.M. to P.M. in Part c. (1) (a) thru (e).

(b) Perform Part c. (1) (a) thru (e) using the above changes.

TASK A-5 (Office Supplement) SUNSET HIGHWAY PEAK HOUR VEHICLE OCCUPANCY COUNT PROCESSING

1. Purpose

To determine the percentages and the occupancy rates for vehicles carrying one, two, and three-or-more occupants on the Sunset Highway. This is for the comparison of a major East/West Highway with the Banfield Freeway during the Peak Hours.

2. Time

After the completion of the occupancy count, the percentages and rates should be calculated as soon as the work load will permit.

3. Place

William McConnel's office in the Oregon State Highway Division Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Sunset Highway Vehicle Occupancy Count Sheets

(1) Eastbound

(a) Separate out the A.M. sheets (Usually two, maybe more).

(b) Check the A.M. sheets' comment column for any problems that may have occurred.

(c) On each A.M. sheet, total the three ten-minute periods during the Peak Hour (7-8 A.M.) and multiply each by 2 (if two 10-minute

periods used, multiply by 3; if one 10-minute period used, multiply by 6) to make them into Full Hour Counts for each of the following:

1) One Occupant Vehicles

2) Two Occupant Vehicles

3) Three-or-more Occupant Vehicles

(d) Make a summary of all the A.M. Sheets for:

1) One Occupant Vehicles

2) Two Occupant Vehicles

3) Three-or-more Occupant Vehicles

(e) Using the Full Hour Occupancy Count totals of the A.M. Vehicles found in Part a. (1) (d) (1) thru (3), find the total number of One, Two, and Three-or-more Occupant Vehicles.

(2) Westbound

(a) In Part a. (1) (a) thru (e) substitute the following:

1) "Westbound" for "Eastbound"

2) "P.M." for "A.M."

(b) Perform Part a. (1) (a) thru (2) using the above changes.

b. Determination of Percentage of Peak Hour Vehicle Occupancy

(1) Eastbound

(a) To find the percentage of One Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of One Occupant Vehicles in the A.M. as found in Part a. (1) (d) 1) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part a. (1) (e) and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(b) To find the percentage of Two Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of Two Occupant Vehicles in the A.M. as found in Part a. (1) (d) 2) by the total number of One, Two and Three-or-more Occupant Vehicles, which was found in Part a. (1) (e), and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(c) To find the percentage of Three-or-more Occupant A.M. Vehicles, divide the Full Hour Count by Three-or-more Occupant Vehicles in the A.M. as found in Part a. (1) (d) 3) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part a. (1) (e) and multiply by 100 for the percentage using the Sunset Highway in the

A.M.

(d) Enter the percentages found in Part b. (1) (a) in the proper place on the current Banfield Freeway Traffic Study Report Summary Sheet.

(2) Westbound

(a) In Part b. (1) (a) thru (d) change A.M. to P.M.

(b) Perform Part b. (1) (a) thru (d) using the above changes.

c. Determination of Occupancy Rates

(1) Eastbound

(a) Find the total number of persons traveling in One Occupant Vehicles in the A.M. by multiplying the sum found in Part a. (1) (d) 1) for the A.M. times factor 1.

(b) Find the total number of persons traveling in Two Occupant Vehicles in the A.M. by multiplying the sum found in Part a. (1) (d) 3) times factor 2.

(c) Find the total number of persons traveling in Three-or-more Occupant Vehicles in the A.M. by multiplying the sum found in Part a. (1) (d) 3) times the factor 3.

(d) Find the sum of the products found in Part c. (1) (a) thru (c).

(e) Divide the sum found in Part c. (1) (d) by the sum found in Part a. (1) (e). Enter answer on the current Banfield Freeway Traffic Report Summary sheet.

(2) Westbound

(a) Change A.M. to P.M. in Part c. (1) (a) thru (e).

(b) Perform Part c. (1) (a) thru (e) using the above changes.

TASK A-6 BANFIELD FREEWAY TIMED RUNS (SPEED CHECK)

1. Purpose

To obtain the required data for computing the average vehicle speed during rush hour in both the restricted (HOV) and unrestricted lanes on the Banfield Freeway.

2. Time

The timed runs are to be taken between the hours of 6:00 and 9:00 A.M. Westbound and the hours of 3:30 and 6:30 P.M. Eastbound. The required data

will be taken on Tuesday, Wednesday, and Thursday, during the third full week of each month.

3. Place

The Banfield Freeway between Grand Ave. and 82nd Ave.

4. Equipment Needed for Test Runs

a. Two passenger vehicles (preferably sedans). Attempt to use the same vehicle for the timed runs throughout the test cycle. Make sure the vehicle is well maintained.

(1) Vehicle No. 1 - 2-person vehicle

(2) Vehicle No. 2 - 3-person vehicle

b. Two stop watches in good working condition.

c. Two wrist watches, pocket watches, or clocks in good running order and set for the correct time of day. One for each vehicle.

d. Pencils and/or pens for each time keeper.

e. Proper forms for each time keeper. (Figures A-10, A-11)

(1) Banfield Freeway Timed Run Westbound

(2) Banfield Freeway Timed Run Eastbound

5. Personnel Needed for Test Runs

a. Two drivers, one for each vehicle.

b. Two timer-note keepers, one for each vehicle.

c. A third person is required for the HOV lane timed runs in Vehicle No. 2.

6. Procedure

a. Both vehicles should arrive at the starting point early. (See appropriate form.)

b. Park at the curb behind the designated starting point.

c. At the correct starting time, Vehicle No. 1 is to join and keep up with the flow of traffic in their designated starting lane as listed below in Item e.(1).

d. Vehicle No. 2 is to start their first run about six to eight minutes after Vehicle No. 1's starting time. Vehicle No. 2 is to join and keep up with the

BANFIELD FREEWAY TIMED RUN

WESTBOUND

Date_____ Weather_____

Time Started_____AM Surface Condition_____

CHECKPOINT	Clock Reading	Calc. Time	Clac. Speed	COMMENTS
Top of Ramp 82nd Str. MP 0.00	0' 00"			
60th Ave. Str MP 1.246				
47th Ave. Str. MP 1.968				
33rd Ave. Str. MP 2.796				
12th Ave. Str. MP 4.049				
Grand Ave. Str. MP 4.450				
AVERAGE SPEED				

FIGURE A-10

BANFIELD FREEWAY TIMED RUN

EASTBOUND

Date_____ Weather_____

Time Started_____PM Surface Condition_____

CHECKPOINT	Clock Reading	Calc. Time	Calc. Speec	COMMENTS
Grand Ave. Str. MP 0.00	0' 00"			
12th Ave. Str. MP 0.401				
33rd Ave. Str. MP 1.654				
47th Ave. Str. MP 2.482				
60th Ave. Str. MP 3.204				
82nd Ave. Str. MP 4.513				
AVERAGE SPEED				

FIGURE A-11

flow of traffic in their designated starting lane as listed below on Item No. e. (2).

e. Observe the following order in your runs.

(1) Vehicle No. 1 (two persons only).

(a) Starting lane is the right-hand lane.

(b) Next run is to be the center lane.

(c) Repeat steps (a) and (b) throughout designated period.

(2) Vehicle No. 2 (three persons).

(a) Starting lane is the center lane.

(b) Next run use the HOV Lane.

(c) Next run use the right-hand lane.

(d) Repeat steps (a), (b), and (c) throughout the designated period.

(e) Be sure to make at least two runs in the HOV lane during the rush hour period.

1) 7:00 to 8:00 A.M.

2) 4:30 to 5:30 P.M.

f. The drivers are to keep up with the flow of traffic though he may have to exceed the speed limit.

g. The timers are to start the stop watch at the following beginning check points:

(1) Westbound beginning check point is located at the top of the Halsey Ave. westbound ramp near 82nd Ave.

(2) Eastbound beginning check point is the east edge of the Grand Ave. structure.

h. Record the elapsed time to the intermediate check points. NOTE: The stop watch is to run continuously until the final check point is crossed.

(1) The westbound intermediate check points are as follows:

(a) The center of the 60th Ave. structure concrete bent.

(b) The center of the 47th Ave. structure concrete bent.

(c) The center of the 33rd Ave. structure concrete bent.

(d) The center of the 12th Ave. structure steel bent.

(e) The final check point westbound is a red sight post paddle adjacent to the east side of the Grand Ave. structure.

(2) The eastbound intermediate check points are as follows:

(a) The center of the 12th Ave. structure steel bent.

(b) The center of the 33rd Ave. structure concrete bent.

(c) The center of the 47th Ave. structure concrete bent.

(d) The center of the 60th Ave. structure concrete bent.

(e) The final check point eastbound is the west edge of the 82nd Ave. structure.

i. The time keepers shall record all items that could affect the flow of traffic, e.g. accidents, maintenance operations, stalled vehicles, etc., along with elapsed time (location of problems should be noted with the information).

j. Stop the stop watch at the final check point and complete the test sheet. As soon as possible the time keeper shall prepare the next sheet and the stop watch for the following run.

k. The drivers upon completion of the test run shall return to the starting point and prepare to start the next run. ALLOW AT LEAST 10 MINUTES BETWEEN TEST RUNS.

l. Continue runs by repeating items No. (3) through (11) until the full test period has elapsed.

(1) Vehicle No. 1 follows the lane rotation as listed under Item No. e. (1) (a) through e. (1) (c).

(2) Vehicle No. 2 follows the lane rotation as listed under Item No. e. (2) (a) through e. (2) (e).

TASK A-6 (Office Supplement) BANFIELD FREEWAY TIMED SPEED RUNS PROCESSING

1. Purpose

To convert the Timed Speed Runs field data for the Banfield Freeway into a usable form for the Banfield Monitoring Project.

2. Time

After the completion of each month's timed speed runs on the Banfield

Freeway, the data will be processed as soon as other scheduled activities will allow.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. The Banfield Freeway Timed Speed Run Sheets

(1) Westbound (use A.M. sheets only)

(2) Eastbound (use P.M. sheets only)

b. Adding machine, calculator, or etc.

c. Pencils and/or pens

d. Current Banfield Freeway Traffic Study report summary sheets.

5. Procedure

a. Determination of the Average Speed per run.

(1) Westbound (A.M. sheets only)

(a) Separate the sheets by date

(b) Separate each date into three groups as follows:

1) HOV Lane

2) Center Lane

3) Right Lane

(c) Compute the average M.P.H. for each sheet as follows:

1) Convert the minutes and seconds that the run took into decimals of an hour.

2) Divide the decimal of an hour into the overall distance of the run.

3) Record the average M.P.H. of the run on the bottom of the sheet.

(2) Eastbound (P.M. sheets only)

(a) Follow the procedure set forth in Part a. (1), (a) thru (c).

b. Determination of Peak Hour Average Speeds.

(1) Westbound (A.M. runs only which were previously separated).

(a) HOV Lane Peak Hour Average Speed.

1) Use only those sheets with a starting time within the Peak Hour (7-8 A.M.).

2) Check the comments column for possible causes that could influence the flow of traffic adversely. I.E. Accidents.

3) If the flow has been influenced, that sheet is not to be used.

4) Total the average M.P.H. recorded on the sheets for the Peak Hour (7-8 A.M.).

5) Divide the total of the average M.P.H.'s by the number of averages used.

6) Enter the Average Peak Hour Speed in the proper place on the Banfield Freeway Traffic Study Report Summary Sheets.

(b) Center Lane Peak Hour Average Speed.

1) Follow the procedure set forth in Part b. (1) (a) 1) thru 6).

(c) Right Lane Peak Hour Average Speed.

1) Follow the procedure set forth in Part b. (1) (a) 1) thru 6).

(d) Total (W/O HOV Lane) Peak Hour Average Speed.

1) Add the total of the average M.P.H.'s of the Center Lane to the total of the average M.P.H.'s of the Right Lane.

2) Add the total number of runs used for the Center Lane to the total number of runs used for the Right Lane.

3) Divide the sum found in 1) above by the sum found in 2) above.

4) Enter answer under "Peak Hour Average Speed for Westbound Total (w/o HOV Lane)" on the Banfield Freeway Traffic Study Report Summary Sheets.

(2) Eastbound (P.M. runs only which were previously separated).

(a) Follow the procedure outlined in Part b. (1) (a) thru (d) 3) using Eastbound data (P.M. runs only).

(b) Enter the answer under "Peak Hour Average Speed for Eastbound Freeway Traffic Study report summary sheets.

c. Place all of the Timed Speed Run Sheets in the file titled "Banfield Monitoring-Timed Speed Runs" in the proper date sequence.

TASK A-7 ARTERIAL STREETS TIMED RUNS (SPEED CHECK)

1. Purpose

To obtain the required data for computing the average vehicle speed during rush hours on the arterial streets within the test area.

2. Time

Timed runs will be taken westbound from 6:00 to 9:00 A.M. and eastbound from 3:30 to 6:30 P.M. on Tuesday, Wednesday, and Thursday of the first full week of each month.

3. Place

The arterial streets used for average speed determination within the test area are as follows:

(1) N. E. Broadway Ave./N. E. Weidler-Broadway.

(2) E. Burnside.

(3) N. E. Sandy Blvd.

The average speed for arterials is to be obtained by making timed runs on the above arterial streets simultaneously.

4. Equipment Required for each Street Timed Run

(1) Passenger vehicle (preferably a sedan). Attempt to use the same vehicle for time runs throughout test cycle. Make sure it is well maintained.

(2) Stop watch in good working order.

(3) Wrist watch, pocket watch, or clock in good running condition and correctly set for the time of day.

(4) Pencil and/or pen.

(5) Proper forms. Figures A-12, A-13, A-14, A-15, A-16, A-17

N. E. SANDY BLVD. TIMED RUN

WESTBOUND

DATE_____ WEATHER_____

TIME STARTED_____ AM SURFACE CONDITION_____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
47th & SANDY MP 0.00	0' 00"			
42nd & SANDY MP 0.285				
41st & SANDY MP 0.345				
BROADWAY & SANDY MP 0.42				
37th & SANDY (WB) MP 0.57				
33rd & SANDY MP 0.89				
28th & SANDY MP 1.255				
24th & SANDY MP 1.49				
20th & SANDY MP 1.72				
16th & SANDY MP 1.945				
BURNSIDE & SANDY MP 2.155				
AVERAGE SPEED				

FIGURE A-12

N. E. SANDY BLVD. TIMED RUN

EASTBOUND

DATE _____ WEATHER _____

TIME STARTED _____ PM SURFACE CONDITION _____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
BURNSIDE & SANDY MP 0.00	0' 00"			
16th & SANDY MP 0.205				
20th & SANDY MP 0.43				
24th & SANDY MP 0.66				
28th & SANDY MP 0.895				
33rd & SANDY MP 1.26				
37th & SANDY (EB) MP 1.555				
BROADWAY & SANDY MP 1.735				
41st & SANDY MP 1.81				
42nd & SANDY MP 1.87				
47th & SANDY MP 2.155				
AVERAGE SPEED				

FIGURE A-13

N.E. BROADWAY TIMED RUN

WESTBOUND

DATE_____ WEATHER_____

TIME STARTED_____AM SURFACE CONDITION_____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
33rd & BROADWAY MP 0.00	0' 00"			
28th & BROADWAY MP 0.295				
24th & BROADWAY MP 0.511				
21st & BROADWAY MP 0.691				
16th & BROADWAY MP 0.921				
15th & BROADWAY MP 0.970				
12th & BROADWAY MP 1.122				
AVERAGE SPEED				

FIGURE A-14

N.E. BROADWAY TIMED RUN

EASTBOUND

DATE _____ WEATHER _____

TIME STARTED _____ PM SURFACE CONDITION _____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
12th & WEIDLER MP 0.00	0' 00"			
15th & WEIDLER MP 0.152				
16th & WEIDLER MP 0.201				
21st & WEIDLER MP 0.431				
24th & BROADWAY MP 0.656				
28th & BROADWAY MP 0.871				
33rd & BROADWAY MP 1.167				
AVERAGE SPEED				

FIGURE A-15

EAST BURNSIDE TIMED RUN

WESTBOUND

DATE_____ WEATHER_____

TIME STARTED_____ AM SURFACE CONDITION_____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
32nd & BURNSIDE MP 0.00	0' 00"			
28th & BURNSIDE MP 0.27				
24th & BURNSIDE MP 0.47				
20th & BURNSIDE MP 0.67				
16th & BURNSIDE MP 0.87				
SANDY & BURNSIDE MP 1.045				
9th & BURNSIDE MP 1.22				
AVERAGE SPEED				

FIGURE A-16

EAST BURNSIDE TIMED RUN

EASTBOUND

DATE _____ WEATHER _____

TIME STARTED _____ PM SURFACE CONDITIONS _____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
9th & BURNSIDE MP 0.00	0' 00"			
SANDY & BURNSIDE MP 0.155				
16th & BURNSIDE MP 0.35				
20th & BURNSIDE MP 0.55				
24th & BURNSIDE MP 0.75				
28th & BURNSIDE MP 0.95				
32nd & BURNSIDE MP 1.22				
AVERAGE SPEED				

FIGURE A-17

(a) Arterial No. 1-N. E. Broadway.

1) N. E. Broadway Westbound Speed Check.

2) N. E. Broadway Eastbound Speed Check.

(b) E. Burnside Timed Runs

Westbound	Eastbound
32nd & Burnside	9th & Burnside
28th & Burnside	Sandy & Burnside
24th & Burnside	16th & Burnside
20th & Burnside	20th & Burnside
16th & Burnside	24th & Burnside
Sandy & Burnside	28th & Burnside
9th & Burnside	32nd & Burnside

(c) N. E. Sandy Blvd. Timed Runs

Westbound	Eastbound
47th & Sandy	Burnside & Sandy
42nd & Sandy	16th & Sandy
41st & Sandy	20th & Sandy
Broadway & Sandy	24th & Sandy
37th & Sandy	28th & Sandy
33rd & Sandy	33rd & Sandy
28th & Sandy	37th & Sandy
24th & Sandy	Broadway & Sandy
20th & Sandy	41st & Sandy
16th & Sandy	42nd & Sandy
Burnside & Sandy	47th & Sandy

(6) Under column for comments, note anything that obstructs the flow of traffic, e.g. traffic lights, accidents, maintenance work, etc.

(7) Stop the stop watch at the last control intersection.

(8) Upon completion of test run, complete required data entries and set up next test run sheet and stop watch while the driver is returning to the starting control intersection.

(a) Arterial No. 2-E. Burnside.

1) E. Burnside Timed Run Westbound.

2) E. Burnside Timed Run Eastbound.

(b) Arterial No. 3-N. E. Sandy Blvd.

1) N. E. Sandy Blvd. Timed Run Westbound.

2) N. E. Sandy Blvd. Timed Run Eastbound.

5. Personnel Required for each Arterial Street Timed Run

a. Driver.

b. Timer/note keeper.

6. Procedure

a. Arrive at the starting point early. (See appropriate form)

b. Park at the curb behind the designated starting point and wait until proper starting time.

c. At the correct starting time, join and keep up with the flow of traffic. DO NOT CHANGE LANES AFTER THE TEST RUN HAS STARTED. If more than one lane, use different lanes on following runs.

d. Start the stop watch in the middle of the beginning intersection. (NOTE: Stop watch will run continuously until the end of each test run.)

e. Record the elapsed time on the report sheet as the middle of each control intersection is crossed. The control intersections are as follows:

(1) N. E. Broadway Timed Run

Westbound	Eastbound
33rd & Broadway	12th & Weidler
28th & Broadway	15th & Wediler
24th & Broadway	16th & Weidler
21st & Broadway	21st & Weidler

16th & Broadway	24th & Broadway
15th & Broadway	28th & Broadway
12th & Broadway	33rd & Broadway

(2) Keep repeating steps 3 through 8 of the above until specified time has elapsed. ALLOW AT LEAST 10 MINUTES BETWEEN TEST RUNS.

TASK A-7 (Office Supplement) ARTERIAL STREETS TIMED SPEED RUNS PROCESSING

1. Purpose

To convert the timed speed runs field data for arterial streets into a usable form for correlation with the Banfield Freeway Monitoring Program.

2. Time

After the completion of each month's Timed Speed Runs on the Arterial Streets, the data will be processed as soon as other activities will allow.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N.E. Glisan Street, Portland, Oregon.

4. Equipment Required

a. Arterial Street Timed Speed Runs for:

(1) Westbound

(a) Sandy Boulevard

(b) Burnside

(c) Broadway

(2) Eastbound

(a) Sandy Boulevard

(b) Burnside

(c) Weidler

b. Adding machine, calculator, etc.

c. Pencil and/or pen

5. Procedure

a. Initial Processing of timed speed runs

(1) Westbound

(a) Sandy Boulevard

(b) Burnside

(c) Broadway

(2) Eastbound

(a) Sandy Boulevard

(b) Burnside

(c) Weidler

(3) For each arterial street, separate the sheets by the day and direction as listed in Parts a. (1) and (2).

(4) Calculate the intermediate time for each check point as follows:

(a) Subtract the clock reading of the smallest time from the largest time.

(b) Convert the time from minutes and seconds to decimals of an hour.

(c) Enter the calculated time on the Timed Speed run sheet in the first Calculated Time Column opposite the line dividing the two check points.

(d) Continue repeating steps in Parts a. (4) (a) thru (c) until all intermediate times have been calculated for all sheets.

b. Determination of Average Timed Speed Runs at selected locations.

(1) Method of calculating M.P.H. between two check points.

(a) Pick the calculated time between the two check points.

1) If the check points are one after the other, use the decimal of an hour that was calculated previously.

2) If the check points have one or more check points between them, use the sum of the decimals of an hour of all the calculated times between the check points for which the Average M.P.H. is to be found.

(b) Subtract the smaller mile point from the larger mile point to obtain the distance between the two check points.

(c) Divide the distance in miles by the time in hours to get M.P.H.

(2) Using the method outlined in Part b. (1) (a) thru (c), calculate the M.P.H. for each of the following locations on each sheet:

(a) Westbound (A.M. Sheets)

1) 41st & Sandy Blvd.

2) 21st & Sandy Blvd.

3) Burnside (the complete run)

4) Broadway (the complete run)

(b) Eastbound (P.M. Sheets)

1) 21st & Sandy Blvd.

2) 41st & Sandy Blvd.

3) Burnside (the complete run)

4) Weidler (the complete run)

(3) Record the M.P.H. in the comments section opposite the proper check point.

(4) File the Arterial Timed Speed Runs in their appointed cabinet for future reference.

TASK A-8 ARTERIAL STREET TRUCK COUNTS

1. Purpose

To determine the Relative Average amounts of Truck Traffic on the major Arterial Streets that parallel the Banfield Freeway.

2. Time

The Arterial Truck counts are to be taken between the hours of 6:00 and 9:00 A.M. and 3:30 and 6:30 P.M. on Monday and Friday during the first three weeks of each month. Only four days are required since counts are taken only one day during the A.M. and P.M. at each listed intersection.

3. Place

The truck counts are to be taken at the following locations:

a. Intersection of 41st Ave. and Sandy Blvd.

b. Intersection of 21st Ave. and Sandy Blvd.

c. Intersection of 21st Ave. and Burnside Street.

d. Intersection of 21st Ave. and Broadway Street. (Westbound)

4. Equipment Required for Arterial Street Truck Counts

a. One vehicle for transportation to and from the count site.

b. One four-column traffic counter board.

c. Pencils and/or pens.

d. Wrist watch, pocket watch, or clock in good working order set to the correct time of day.

e. Proper forms as follows:

(1) Arterial Streets Truck Counts A.M.
Figure A-18

(2) Arterial Streets Truck Counts P.M.
Figure A-19

5. Personnel Required for Arterial Streets Truck Counts

One person only.

6. Procedure

a. The counter person will attempt to make both A.M. and P.M. counts at one intersection during the same day (one day a month).

b. The definition of a truck for this count is as follows:

(1) Trucks are tanker trucks, semi-trucks, dump trucks, delivery trucks, school buses, etc.

(2) Vehicles that are not to be classified as trucks are as follows:

(a) Tri-Met buses

(b) Pickup trucks

(c) Panel trucks

(d) Campers on pickups

(e) Camping trailers

(f) Mobile homes

c. The person will count only the trucks that are following the east

ARTERIAL STREET TRUCK COUNT

Location_____ Date_____

Weather_____

TIME AM	EASTBOUND	WESTBOUND	COMMENTS
6:00-6:30			
6:30-7:00			
7:00-7:30			
7:30-8:00			
8:00-8:30			
8:30-9:00			
TOTALS			

FIGURE A-18

ARTERIAL STREET TRUCK COUNT

Date_____

Location_____

Weather_____

TIME PM	EASTBOUND	WESTBOUND	COMMENTS
3:30-4:00			
4:00-4:30			
4:30-5:00			
5:00-5:30			
5:30-6:00			
6:00-6:30			
TOTALS			

FIGURE A-19

to west direction through the intersection.

d. Do not count the trucks that turn before they get to the intersection or cross the east-west travel.

e. The procedure to be followed at each arterial street for counting trucks is as follows for the A.M.:

(1) The counter person drives to and parks in a safe location at the designated intersection. Arrival time should allow a minimum of five minutes to prepare for counting.

(2) The counter person is to start counting at the designated starting time doing the following:

(a) Using two columns on the counter board, the person starts counting all trucks.

1) Westbound column No. 1.

2) Eastbound column No. 2.

(b) After the first 30-minute period, and each following 30-minute period, record the running total in the appropriate location on the form. (NOTE: Under the comments column enter any note that may affect the totals, e. g. accidents, stalled traffic, maintenance work, etc.)

(c) Continue counting until the designated time has elapsed. (3 hours)

(d) Complete all records and return to the office.

(3) Procedure to be followed at each Arterial Street for the P.M. Arterial Street Truck Count is the same as the A.M. count. Follow the procedures (1) and (2) (a) thru (2) (d).

TASK A-9 COLLECTION OF GASOLINE PRICES

1. Purpose

To provide data for correlation between Banfield Flyer bus usage, Carpooling and Non-carpooling users of the Banfield Freeway in relationship to the fluctuation in Gasoline Prices.

2. Time

The collection of the Gasoline Prices is to be performed once a month or if rapid changes in price occur, the time interval may be shortened.

3. Place

a. Gasoline Prices are to be obtained at the following locations:

(1) The Standard Station at N. E. 102nd & Halsey.

(2) The Mobil Station at N. E. 122nd & Glisan.

(3) The Chevron Station at N. E. 181st & Broadway.

(4) The Chevron Station at S. W. Broadway & Columbia.

4. Equipment Required

a. One vehicle in good mechanical condition.

b. One pad for recording the data.

c. Pencil and/or pen.

5. Procedure

a. The Standard Station at N. E. 102nd & Halsey.

(1) Drive to the station in a safe manner and park so that the pumps are not blocked by the vehicle.

(2) On the pad record the name and location of the service station.

(3) If there is a mini-service island, use the prices at those pumps.

(4) Read the price per gallon for the regular gasoline and record it thusly "Reg. Gas XX.X" on the pad under the station's name and location.

(5) Read the price per gallon of the un-leaded gasoline and record it thusly "Un-leaded XX.X" on the pad under the station's price for regular gasoline.

(6) Read the price per gallon of the premium gasoline and record it thusly "Premium XX.X" on the pad under the station's price for un-leaded gasoline.

(7) If this is not the last station to be checked, proceed to the next station; otherwise, return to the Tri-Met office and turn in the information to the Marketing Supervisor.

b. The Mobil Station at N. E. 122nd & Glisan.

Follow the steps as listed in Part a. (1) thru (7).

c. The Chevron Station at 181st & Broadway.

Follow the steps as listed in Part a. (1) thru (7).

d. The Chevron Station at S. W. Broadway & Columbia.

Follow the steps as listed in Part a. (1) thru (7).

TASK A-10 CALCULATION OF HOV LANE VIOLATORS

1. Purpose

To obtain the number of persons and vehicles violating the HOV lane during the Peak Hours (7-8 A.M. & 4:30-5:30 P.M.) from data collected and processed for the Banfield Monitoring Program.

2. Time

Calculations of the number of persons violating the HOV lane is to be performed after the processing of the Vehicle Lane Counts and Vehicle Occupancy Counts.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Current Banfield Freeway Traffic Study Report Summary Sheet.

b. Banfield Freeway Vehicle Occupancy Count Sheets for the HOV Lane (Westbound 7-8 A.M. and Eastbound 4:30-5:30 P.M.).

c. Adding machine, calculator, or etc.

d. Pencils and/or pens

5. Procedure

a. Determination of number of persons violating the HOV lane during the Peak Hour Westbound (7-8 A.M.).

(1) Using the Banfield Freeway Vehicle Occupancy Count Sheet for the HOV Lane, find the following:

(a) The sum of the total of one occupant vehicles plus the total of two occupant vehicles times two.

(b) Total the number of persons by taking the total number of one occupant vehicles times one plus the total number of two occupant vehicles times two plus the total number of three occupant vehicles times three.

(c) Divide the sum found in a. (1) (a) by the sum found in a. (1) (b).

(2) From the current Banfield Freeway Traffic Study Report Summary Sheet, use the peak hour vehicle count at 47th for Westbound HOV Lane.

(3) Multiply the quotient from a. (1) (c) times the number found in

a. (2).

(4) Enter in Peak Hour Person at 47th Westbound HOV Lane Violators on the current Banfield Freeway Traffic Study Report Summary Sheet.

b. Determination of the number of persons violating the HOV lane during the peak hour Eastbound (4:30-5:30 P.M.)

Repeat the procedure a. (1) thru a. (4) using the Eastbound sheets.

c. Determination of the number of vehicles violating the HOV lane Westbound (7-8 A.M.)

(1) Using the Banfield Freeway Vehicle Occupancy Count Sheets for HOV peak hour Westbound (7-8 A.M.) find the following:

(a) Total number of one occupant vehicles plus the total number of two occupant vehicles.

(b) Total number of three-or-more occupant vehicles plus the sum found in c. (1) (a).

(c) Divide the sum found in c. (1) (a) by the sum found in c. (1) (b).

(2). From the Current Banfield Freeway Traffic Study Report Summary Sheet, find the Peak Hour Vehicle count at 47th for Westbound HOV Lane.

(3) Multiply quotient found in C. (1) (c) by number found in c. (2).

(4) Record on current Banfield Freeway Traffic Study Report Summary Sheet.

d. Determination of the number of vehicles violating the HOV Lane Eastbound (4:30-5:30 P.M.)

Repeat the procedure c. (1) thru c. (4) substituting Eastbound for Westbound in all places.

TASK A-11 CALCULATION OF CARPOOLS

1. Purpose

To determine the number of carpools traveling the HOV lane during the peak hours (7-8 A.M. and 4:30-5:30 P.M.)

2. Time

Calculation of the number of carpools in the HOV lane is to be performed after the processing of the Vehicle Lane Counts and the Vehicle Occupancy Counts.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Current Banfield Freeway Traffic Study Report Summary Sheet.

b. Banfield Freeway Vehicle Occupancy Count sheets for the HOV lane (Westbound 7-8 A.M. & 4:30-5:30 P.M.)

c. Adding Machine, calculator, or etc.

d. Pencils and/or pens

5. Procedure

a. Determination of the number of carpools using the HOV lane during the Peak Hour Westbound (7-8 A.M.)

(1) Using the Banfield Freeway Vehicle Occupancy Count Sheets for the HOV lane, westbound (7-8 A.M.) find the following:

(a) The number of persons in the three-or-more occupant vehicles by taking the total number of three-or-more occupant vehicles times 3.

(b) Total number of persons by summing the total number of one occupant vehicles times one plus the total number of two occupant vehicles times two plus the total number of three-or-more occupant vehicles times three.

(c) Divide the product found in a. (1) (a) by the sum found in a. (1) (b).

(2) From the current Banfield Traffic Study Report Summary Sheet use the peak hour vehicle count at 47th for Westbound HOV Lane.

(3) Multiply the quotient found in a. (1) (c) times the number found in a. (2).

(4) Enter in Peak Hour Vehicle Lane count at 47th Westbound HOV Lane Carpools on the Banfield Freeway Traffic Study Report Summary Sheet.

b. Determination of the number of carpools using the HOV Lane during the Peak Hour Eastbound (4:30-5:30 P.M.).

Repeat the procedure a. (1) thru a. (4) substituting Eastbound for Westbound in all places.

c. Determination of the number of carpools using all lanes during the peak hour Westbound (7-8 A.M.)

(1) Using the Banfield Freeway Vehicle occupancy count sheets for Westbound (7-8 P.M.), find the following:

(a) The number of persons in three-or-more occupant vehicle by multiplying the total number of three-or-more occupant vehicles times three.

(b) Total number of persons by summing the total number of one occupant vehicles times one, plus the total number of two occupant vehicles times two plus the total number of three-or-more occupant vehicles times three.

(c) Divide the product found in c. (1) (a) by the sum found in c. (1) (b).

(2) From the current Banfield Freeway Traffic Study Report Summary Sheet, obtain the Westbound total of the peak hour Vehicle Count at 47th.

(3) Multiply the quotient found in c. (1) (c) by the number found in c. (2).

(4) Record on the Current Banfield Freeway Traffic study Report Summary Sheet.

d. Determination of the number of carpools using all lanes during Peak Hour Eastbound (4:30-5:30 P.M.)

In procedure c. (1) thru c. (4) substitute Eastbound for Westbound and repeat the procedure.

TASK B-1 DETERMINATION OF BANFIELD FLYER RIDERSHIP

1. Purpose

To obtain an accurate count on the number of patrons using the Banfield Flyer buses for determination of the number of persons traveling in the HOV lanes.

2. Time

The count is to be made for every trip. Both inbound and outbound Banfield Flyer buses.

3. Place

The count is to be taken on board the Banfield Flyer buses.

4. Equipment Required

a. Load check slip.

b. Pencil and/or pen.

5. Personnel Required

a. Utilization of the drivers of the Banfield Flyer buses.

b. One person (clerk) for compiling the weekly total.

c. One person (Marketing Supervisor) for assembling all related data.

6. Procedure

a. Each driver of a Banfield Flyer bus is given a load check slip for each run made.

b. Each driver is to record the number of patrons embarking and disbarking at every loading point.

c. The drivers are to turn in the load check slips to the office clerk each day.

d. The office clerk totals the slips and delivers the weekly total to the Marketing Supervisor.

e. The Marketing Supervisor compiles a monthly total.

TASK B-2 DETERMINATION OF PARK AND RIDE LOT USAGE BY BANFIELD FLYER PATRONS

1. Purpose

To provide information for determining the number of vehicles driven to and parked at five park and ride lots for the purpose of using the Banfield Flyer buses.

2. Time

The count is taken once a month (approximately in the middle) during the middle of the week.

3. Place

The count is performed at the following locations:

a. Silver Skate Ice Rink at 102nd and Halsey.

b. Mall 205 at 105th and Stark.

c. Multnomah Kennel Club at 223rd and Glisan.

d. Reynolds High School at 201st and Halsey.

e. Mt. View Christian Church at 1890 N. E. Cleveland, Gresham.

4. Equipment Required

a. One vehicle.

b. A pad for recording counts

c. C. Pencil and/or pen.

d. Counter (optional).

5. Personnel Required

Only one person is required to perform this operation.

6. Procedure

The person doing the counting is to drive to each of the Park and Ride lots listed and make a physical count of the number of vehicles in each. This data is turned into the Marketing Supervisor.

TASK B-3 COLLECTION OF PARKING RATES

1. Purpose

To provide data for correlation between Banfield Flyer bus usage, Car-pooling and Non-carpool users of the Banfield Freeway in relationship to the fluctuation in Parking Rates.

2. Time

Once a month

3. Place

a. Ambassador Parking at 1202 S.W. Broadway.

b. City Center Parking at S.W. Broadway and Yamhill.

4. Equipment Required

a. One vehicle in good mechanical condition.

b. One pad for recording the data.

c. Pencil and/or pen.

5. Procedure

a. Ambassador Parking at 1202 S.W. Broadway.

(1) Drive to the parking lot in a safe manner.

(2) Park near by or information may be obtained from the signs displayed on the lot site as you drive by.

(3) Record the name and location of the parking lot on the pad.

(4) Record the cost for the first hour under the name and location of the parking lot.

(5) Record the cost for additional ½ hour under the name and location of the parking lot.

(6) Record the cost for all day under the name and location of the parking lot.

(7) Record the cost per month under the name and location of the parking lot.

(8) Go to the next parking lot to be checked if this is not the last one; otherwise, return to Tri-Met office and turn in the information to the Marketing Supervisor.

b. City Center Parking at S. W. Broadway and Yamhill.

Follow the steps as outlined in Part a. (1) thru (8).

TASK C-1 METHOD OF COMPUTATION OF DATA ON ACCIDENTS

1. Purpose

To show the relationship between the vehicle miles traveled, number of accidents, and average number of vehicles involved per accident on a monthly basis.

2. Time

As time permits after the reception of raw data from the different sources.

3. Place

Computation is performed in Jerry Street's office.

4. Equipment and Data Required

a. Calculator (electronic or manual).

b. Pencils or pens.

c. Automatic Traffic Recorder Data, Westbound and Eastbound, for the recorder at 21st Ave. overcrossing of the Banfield Freeway. (Furnished by Traffic Engineering Division, Planning Survey Section, of the Oregon State Highway Division).

d. Ramp counts from D. Peterson, Metro Traffic Engineer, for the following locations:

(1) Holiday Exit Westbound

(2) 33rd Entrance Westbound

(3) 37th Entrance Westbound

(4) 42nd Exit Westbound

(5) 58th Entrance Westbound

(6) 82nd Entrance Westbound

(7) 16th Entrance Eastbound

(8) 33rd Exit Eastbound

(9) 39th South Exit Eastbound

(10) 39th North Exit Eastbound

(11) 41st Entrance Eastbound

(12) 57th Exit Eastbound

(13) 60th Entrance Eastbound

(14) 68th Exit Eastbound

(15) 82nd Exit Eastbound

e. Accident data of those occurring within the limits of the project (from C. Vistica, Traffic Data Supervisor, ODOT) with the following information:

(1) Month

(2) Day

(3) Hour

(4) Mile post

(5) Weather

(6) Lane

(7) Type collision

(8) Type accident

(a) Fatal

(b) Non-fatal

(c) Property damage only.

(9) Number of vehicles involved.

(10) Description of accident.

f. Distance between exits and entrances as listed below:

(1) Westbound clocked mileages.

(a)	M.P. 0.58 to Holladay off-ramp	0.63 mile
(b)	Holladay off-ramp to 33rd on-ramp	0.83 mile
(c)	33rd on-ramp to 37th on-ramp	0.31 mile
(d)	37th on-ramp to 42nd off-ramp	0.27 mile
(e)	42nd off-ramp to 58th on-ramp	0.73 mile
(f)	58th on-ramp to 82nd on-ramp	1.68 miles
(g)	82nd on-ramp to M.P. 5.16	0.28 mile

(2) Eastbound clocked mileages.

(a)	M.P. 0.58 to 16th on-ramp	0.75 mile
(b)	16th on-ramp to 33rd off-ramp	0.76 mile
(c)	33rd off-ramp to 39th off-ramp (So.)	0.34 mile
(d)	39th off-ramp South to 39th off-ramp North	0.10 mile
(e)	39th off-ramp North to 41st on-ramp	0.51 mile
(f)	41st on-ramp to 57th off-ramp	0.73 mile
(g)	57th off-ramp to 60th on-ramp	0.29 mile
(h)	60th on-ramp to 68th off-ramp	0.47 mile
(i)	68th off-ramp to 82nd off-ramp	0.85 mile
(j)	82nd off-ramp to M.P. 5.16	0.14 mile

5. Personnel Required

Only one person is required to perform the calculations.

6. Procedure

a. Process the accident data furnished by C. Vistica in the following manner.

(1) Assemble the accidents by month.

(2) Total number of accidents per month.

(3) Derive the average number of vehicles per accident thusly.

(a) Total number of vehicles involved in all the accidents by month.

(b) Divide the total number of vehicles involved by the total number of accidents for that month.

b. From the automatic counter data furnished by the Traffic Engineering Division, obtain the Average Daily Traffic (ADT) using the freeway at the 21st Ave. overcrossing of the Banfield Freeway.

c. From the ramp counts furnished by D. Peterson, Metro Traffic Engineer, compute the ADT for each ramp, if not previously done. To do this, multiply the Average Weekday Traffic by 0.90.

d. Determine the average miles traveled by the method listed below.

(1) Westbound

(a) Subtract the Holladay exit count from ADT at the counter and multiply the remainder by the distance in miles between M.P. 0.58 and Holladay exit.

(b) Multiply ADT at the counter by the distance in miles between Holladay exit and 33rd entrance.

(c) Subtract the count at 33rd entrance from ADT at counter. This is the number of vehicles traveling between 33rd entrance and 37th entrance. Multiply this number of vehicles by the distance in miles between 33rd entrance and 37th entrance.

(d) Subtract the count at 37th entrance from number of vehicles between 33rd entrance and 37th entrance. This gives the number of vehicles traveling between 37th entrance and 42nd exit. Multiply this number of vehicles by the distance in miles between 37th entrance and 42nd exit.

(e) Add the count at 42nd exit to number of vehicles between 37th entrance and 42nd exit. This gives the number of vehicles traveling between 42nd exit and 58th entrance. Multiply this by the distance

in miles between 42nd exit and 58th entrance.

(f) Subtract the count at 58th entrance from number of vehicles traveling between 42nd exit and 58th entrance. This gives the number of vehicles traveling between 58th entrance and 82nd entrance. Multiply this by the distance in miles between 58th entrance and 82nd entrance.

(g) Subtract the count at 82nd entrance from number of vehicles traveling between 58th entrance and 82nd entrance. This gives the number of vehicles traveling between 82nd entrance and M.P. 5.16. Multiply this by the distance in miles between 82nd entrance and M.P. 5.16.

(h) Find the sum of the products of Parts (1) (a) thru (1) (g) of above. This gives the total number of vehicle miles traveled per day westbound.

(2) Eastbound

(a) Subtract the 16th entrance traffic from ADT at the counter and multiply the remainder by the distance in miles between M.P. 0.58 and 16th entrance.

(b) Multiply the ADT at the counter by the distance in miles between 16th entrance and 33rd exit.

(c) Subtract the count at 33rd exit from ADT at the counter. This gives the number of vehicles traveling between 33rd exit and 39th South exit. Multiply this by the distance in miles between 33rd exit and 39th South exit.

(d) Subtract the count at 39th South exit from the number of vehicles traveling between 33rd exit and 39th South exit. This gives the number of vehicles traveling between 39th South exit and 39th North exit. Multiply this by the distance in miles between 39th South exit and 39th North exit.

(e) Subtract the count at 39th North exit from the number of vehicles traveling between 39th South exit and 39th North exit. This gives the number of vehicles traveling between 39th North exit and 41st entrance. Multiply this by the distance in miles between 39th North exit and 41st entrance.

(f) Add the count at 41st entrance to the number of vehicles traveling between 39th North exit and 41st entrance. This gives the number of vehicles traveling between 41st entrance and 57th exit. Multiply this by the distance in miles between 41st entrance and 57th exit.

(g) Subtract the count at 57th exit from the number of vehicles traveling between 41st entrance and 57th exit. This gives the number of vehicles traveling between 57th exit and 60th entrance. Multiply this by the distance in miles between 57th and 60th entrance.

(h) Add the count at 60th entrance to the number of vehicles traveling between 57th exit and 60th entrance. This gives the number of vehicles traveling between 60th entrance and 68th exit. Multiply this by the distance in miles between 60th entrance and 68th exit.

(i) Subtract the count at 68th exit from the number of vehicles traveling between 60th entrance and 68th exit. This gives the number of vehicles traveling between 68th exit and 82nd exit. Multiply this by the distance in miles between 68th exit and 82nd exit.

(j) Subtract the count at 82nd exit from the number of vehicles traveling between 68th exit and 82nd exit. This gives the number of vehicles traveling between 82nd exit and M.P. 5.16.

(k) Find the sum of the products of parts (a) thru (j) of above. This gives a total number of vehicle miles traveled per day eastbound.

(3) Combine the total miles traveled westbound and eastbound.

e. For the monthly number of vehicle miles traveled, take the combined daily westbound and eastbound totals times the number of days in that month.

f. Accidents per million miles is figured by dividing the total number of vehicle miles in millions of miles traveled that month into the number of recorded accidents.

TASK D-1 METEOROLOGY DATA GATHERING (SERVICE PROCEDURES)

1. Purpose

To obtain meteorological data (wind velocity and wind direction) needed to make proper analysis of air quality tests conducted within the Banfield Corridor.

2. Time

The weather station should be checked twice each week for accuracy of the day and time scale on the chart and for need of chart change. Also, on the first check during a month, the batteries shall be replaced with new batteries.

3. Place

The weather station is located on the roof of the KATU, Channel 2, Television Studio at 2153 N. E. Sandy Blvd. The station is mounted on pole 10+ feet above roof parapet.

4. Equipment

a. Weather Station - MRI Unit.

b. Vehicle for transportation to and from the site.

c. Time piece, e.g. wrist watch, pocket watch, etc., is required to check the time setting of the chart. Knowledge of the date is required for setting the chart.

d. Adjustable open end wrench.

e. Two persons is ideal, but one person can do the job.

f. Four 'D' cell batteries (when changing batteries) on the first of each month.

g. Pencil and/or pen.

h. Spare chart.

5. Service Procedures

a. Drive to KATU TV Studio and park nearby.

b. Enter building and go to the Art Department on the second floor. If this is your first time, ask the receptionist for directions.

c. Go out the window of the Art Department and onto the roof. Turn to your left.

d. Ascend the ladder which you see there. Exercise safety when climbing.

e. Cross this roof to another ladder and ascend. Again, exercise safety.

f. Climb over the 18" parapet to the top roof.

g. The meteorological station is to your left and about 10 feet away.

h. Lower the unit by the following method:

(1) Loosen one of the three bolts holding the unit mounting pole inside of the sleeve.

(2) Lift the unit mounting pole slightly and remove bolt which passes through the center of the unit mounting pole.

(3) Lower unit mounting pole and insert bolt in hole that is approximately two feet from the bottom of the unit. DO NOT LET IT DROP!!!

i. Disengage the two latches and open.

j. "Cage" the unit as per the instructions on the inside of the door.

k. Check the time on the chart for accuracy as follows:

(1) Draw arrow to time on the chart.

(2) Write down the date on the chart.

(3) Write down the actual time on the chart even though the units' time may not be correct.

(4) Initial the chart.

(5) If the unit is not on time, roll unit forward to the correct time and mark down date at this point.

(6) If there is not enough chart to last until the next check, replace the chart as per instructions on the inside of the door.

(7) Be sure to mark the time and date on the old chart when it is removed and a new one installed.

(8) Uncage unit, close and latch door.

l. If this is the check where the batteries are to be replaced, do the following:

(1) Open the battery compartment on the bottom of the unit.

(2) Remove the used batteries.

(3) Install new batteries with the positive ends up.

(4) Close the battery compartment.

m. Remove the bolt from the service position.

n. Raise the unit mounting pole up hand under hand. DO NOT DROP!!!

o. When raised, position the hood-like protrusion to a northerly direction.

p. Line up the bolt hole that goes through the unit mounting pole with the punch mark on the sleeve and insert the bolt.

q. Tighten down the steadying bolt that was loosened.

r. Return to the truck by the same route that was followed to reach the roof by reversing the order from before.

s. Remember to exercise safety when ascending and decending the ladders.

t. Used charts are to be taken to the United Cerebral Palsy Workshop at 5417 S. E. 72nd Avenue for analysis. NOTE: Upon receipt of the analysis sheet from the United Cerebral Palsy Workshop for the M.R.I. Weather Station the sheet is forwarded to Rick Wood, Environmental Section, Oregon State Highway Division, Salem, Oregon.

u. Return to the office or next assigned job.

TASK D-2 OPERATION OF THE HIGH-VOLUME SAMPLER

1. Purpose

To determine the concentration of lead particulates within the ambient air in the Banfield Corridor that includes the parallel arterial streets.

2. Time

Particulate samples are to be obtained approximately ten times per month. Two or three times per week with monthly schedule set up before the month starts. This work should be scheduled to not conflict with other procedures.

a. On the day after last scheduled test day, and no later than the day before the next calendar scheduled test date, the sample has to be removed and new test schedule set in timer clock.

b. It is important to note that the equipment operates on a seven-day clock and the clock, if not reset, will retest on the seventh day. It is imperative that no more than six days elapse between test cycle and removal of sample, since the clock will retest on the seventh day on the earlier sample filter.

3. Place

The Hi-Vol Sampler is located at the intersection of N. E. 19th Ave. and N. E. Multnomah.

NOTE: Additional samplers may be added at a later date.

4. Equipment Required

a. One vehicle for transportation to and from the permanent location for the sampler.

b. The High-Volume Sampler from General Metal Works.

c. Special filter papers for Hi-Vol Sampler.

d. Envelopes.

e. Field sampling report titled "Suspended Particle Form".

f. Pencils and/or pens.

NOTE: No laboratory equipment is required, all of the samples will be taken to the Oregon Department of Environmental Quality Control for analyzation at a later time.

5. Personnel Required

One person only is required.

NOTE: The person should be familiar with the equipment. Be competent enough to recognize maintenance problems along with removing and replacing filter papers. Repairs will be performed by others.

6. Procedure

a. On the day scheduled for collecting the last sample and setting up the next test, do the following items before leaving the office.

(1) Get one envelope.

(2) Get one clean filter paper.

(3) Get one form entitled "Field Sampling Report-Suspended Particulate".

NOTE: All the above items can be found in the top drawer of the filing cabinet in Bill McConnel's office, labeled Lead-Banfield HOV.

(4) A spare set of 1 through 3 of above can be taken along for emergency, but if not used they should be returned to the file upon return to the office.

(5) Damaged or bad filters are not to be used, but SHALL NOT BE DESTROYED. They are to be returned in the envelope with the form filled out noting the disorder under the remarks column on the form.

(6) Make sure you know the date and day of the next test to be taken.

b. After acquiring all the required items, the test person should drive to and park in a safe manner at the Hi-Vol Sampler location.

c. Proceed to retrieve the previous sample as follows:

(1) Lift the top of the unit up and loosen the four wing nuts that hold the square metal frame.

(2) After the four wing nuts have been loosened, push them to one side and lift off the metal bracket.

(3) Remove the filter paper, being careful not to tear the filter paper, and fold the filter paper so that the sample material is facing inward.

(4) Place the filter paper in the envelope.

(5) Complete filling out the test form as per the following example:

FILTER # (LOCATION ON FILTER) TIME START _____

COUNTY MULTNOMAH TIME STOP _____

STATION 2614003 START FLOW _____

START DATE (as per schedule) STOP FLOW _____

Use remarks as required for equipment failure, changed filter papers, etc.

(6) Place form in envelope with filter paper.

d. Process for completing sample removal and setting up test equipment next sample.

(1) After completion of item No. c. above, place new filter paper back in the sampler with the smooth side of the filter paper facing downward.

(2) Place metal bracket over the filter paper by reversing operation No. c. (2).

(3) Tighten the four nuts finger tight.

(4) Put the lid back down to the original position.

(5) Open the side door of the Hi-Vol Sampler.

(6) Open a second door, made of metal, inside the sampler to find the time adjustment controls. The seven-day disk with two metal clips on its outside edge is to be set to run for 24 hours starting at 0:01 and running to 23:59 by doing the following:

(a) Set the lighter colored clip to 12:00 midnight of the day before the test is to be taken (Start Time).

(b) Set the darker colored clip to 12:00 midnight of the day that the test is to be taken (End Test).

(c) Tighten clips finger tight.

(7) Check sampler suction pump motor by turning on the switch that is located next to the time adjustment control. Make sure to turn switch back off after testing. NOTE: Sampler has had a history of motor failure (burn-out). If the motor fails to start, note on the Field Sample Report Form the failure probably happened during collection of the sample and notify your supervisor as soon as possible so that repairs can be made by Arlo Bones.

(8) Close both side doors.

e. When you return to office, place the envelope holding the sample in the file drawer "Lead-Banfield HOV".

f. When twenty or so samples have been collected, notify the DEQ one or two days in advance that you are bringing in the samples. They will prepare 24 new filters for you to pick up when you deliver the used filters for processing.

TASK D-3 COLLECTION OF AMBIENT AIR SAMPLES FOR MONITORING CARBON MONOXIDE LEVELS

1. Purpose

To obtain samples of the ambient air within the Banfield Corridor and along the parallel streets for checking concentrations of Carbon Monoxide (CO).

2. Time

The six AQS Model 2 Sequential Air Samplers are programed to take twelve consecutive one hour samples each. These samples are to be taken approximately ten times per month on random days without taking samples on any two consecutive days. The ten random samples must have at least one sample that is taken on a Saturday and one sample that is taken on a Sunday. That leaves eight samples to be taken on random weekdays.

3. Place

The six numbered samplers, Nos. 002 through 007, are located at the following sites:

a. Sampler No. 002 is located at 47th and Banfield Freeway. The unit is attached to a column 10 feet off the ground on the north side of the structure.

b. Sampler No. 003 is located at 19th and Multnomah. The unit is inside the compound enclosing the Environmental Test Trailer.

c. Sampler No. 004 is located at Mile Post 1.46 on the Banfield Freeway. The unit is attached to the back of a road sign on the north side of the freeway. The legend on the sign reads "Lloyd Center Exit".

d. Sampler No. 005 is located at N. E. 20th and Sandy Blvd. This unit is on the roof of the Jantzen Knitting Mills.

e. Sampler No. 006 is located at N. E. 22nd and Burnside. This unit is on the roof of the B & B Auto Supply.

f. Sampler No. 007 is located at N. E. 21st and Broadway. This unit is located behind the sign with the legend "Zeller's Funeral Chapel".

4. Equipment Required

6 - AQS Model 2 Sequential Air Samplers.

1 - 8-foot step landder.

1 - 20-foot step ladder (stored inside the entrance marked "Plant Entrance" at Jantzen Knitting Mills, Sampler No. 005 location).

1 - 24-foot step ladder (borrowed from the maintenance section at the Banfield office).

1 - Rope/pully combination.

1 - Crew cab truck.

1 - Voltmeter.

24 - 12 volt dry cell batteries.

72 - 5 litre Tedlar bags with contents evacuated (two complete sets of 72 bags are required, one set in the samplers and one set for replacement).

6 - large cloth bags.

1 - roll masking tape.

5. Personnel Required

Two persons are needed for the collection of samples from the various sites as listed above.

6. Procedure

a. Sampler No. 002 at N. E. 47th and Banfield Freeway.

(1) Drive up on the 47th Ave. structure and park safely.

(2) Attach rope/pully to swinging arm.

(3) Lower hook and catch it on the bail that is attached to the sampler.

(4) Raise the sampler up and place it on the sidewalk area of the structure.

(5) Remove the cover of the AQS Model 2 by releasing the spring clamps.

(6) Lift the top off being careful not to pull the full Tedlar bags off.

(7) Lock all hose clamps closed.

(8) Place a piece of masking tape on each Tedlar bag and mark it according to the Sampler and position number. I.e. Unit 002, Bag 10.

(9) Reprogram the AQS Model 2 for the next sampling period in accordance with the instructions for the operation of the AQS Model 2 Sequential Air Sampler by Environmental Measurements, Inc.

(10) Using the voltmeter test the batteries under load. Replace them if the reading is under 9 volts when tested under load.

(11) Attach the empty Tedlar bags to the quick disconnect clamps.

(12) Make sure all hose clamps are open.

(13) Place empty Tedlar bags into the housing being careful not to dislodge them from the pumps, tangle the hoses, or tear the bags.

(14) Replace the cover and lock it closed with the spring clamps.

(15) Hook rope/pully to the bail of the unit and lower it back into position.

(16) Proceed to the next unit to be serviced.

b. Sampler No. 003 located at 19th and Multnomah.

(1) Park by the Environmental Test Trailer compound.

(2) Follow the procedure listed in Part a. (5) thru (14).

(3) Proceed to the next unit to be serviced.

c. Sampler No. 004 located at Mile Post 1.46 on the Banfield Freeway.

(1) Park at the gore of the Banfield Freeway and Holiday Ave. exit and proceed to the test site taking the 8-foot ladder and needed equipment with you.

(2) Set the ladder against the sign post. Ascend the ladder and lower the sampler to the ground. It is easier to service it in this position.

(3) Follow the procedures listed in Part a. (5) thru (14).

(4) Replace the sampler in its position and return to the truck with the ladder, collected samples, and all equipment listed in 1 above.

(5) Proceed to the next unit to be serviced.

d. Sampler No. 005 located at N. E. 20th and Sandy Blvd.

(1) Park at the bank across N. E. 20th from the Jantzen Knitting Mills marked "Plant Entrance".

(3) Set up the ladder at the side of the building.

(4) Ascend the ladder to the top of the building taking all necessary equipment and material needed to service the sampler.

(5) thru (14). Service the unit following the procedures set forth in Part a. (5)

(6) Descend the ladder taking all equipment and materials with you.

(7) Replace the ladder in the Jantzen Knitting Mills where you found it.

(8) Proceed to the next unit to be serviced.

e. Sampler No. 006 located at N. E. 22nd and Burnside.

(1) Park at the nearest convenient spot.

(2) Take 24-foot ladder from the roof of the crewcab truck and place it on the side of the B & B Auto Supply Building.

(3) Ascend the ladder with all the necessary equipment and materials required for servicing this unit.

(4) thru (14). Service the unit following the procedure outlined in Part a. (5)

(5) Descend the ladder with all equipment and materials.

(6) Put the ladder back on top of the crewcab and proceed to the next unit to be serviced.

f. Sampler No. 007 located at N. E. 21st and Broadway.

(1) Park near the sign with the legend "Zeller's Funderal Chapel".

(2) thru (14). Service the unit following the procedure outlined in Part a. (5)

(3) Return to the office with the samples of ambient air for processing and make sure all equipment and materials are returned to the proper place.

TASK D-4 DETERMINATION OF CARBON MONOXIDE CONTENT USING THE ECOLYZER

1. Purpose

Determination of the Carbon Monoxide content of the ambient air samples collected within the Banfield Corridor and along the parallel streets.

2. Time

The Carbon Monoxide contents are checked after ambient air samples from the AQS Model 2 Samplers are collected and delivered to Bill McConnel's office (approximately ten times per month). Actual test should be run during slack work periods so as to not interfere with other data gathering as required by the Banfield Monitoring Program.

3. Place

The Ecolyzer is a portable field CO analyzer which is located and used in William McConnel's office of the Highway Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Ecolyzer

b. Bottle of span gas (which has a known quantity of CO concentration) (see tag on span gas bottle).

c. Proper forms (Air Quality Monitoring Program-Carbon Monoxide). (Figure A-20)

The completed Ecolyzer forms on Carbon Monoxide are submitted to Rick Wood, Environmental Section, Oregon State Highway Division, Salem, Oregon, for processing and dissemination to proper parties.

d. The ambient air samples from one or all of the Samplers as follows: (See CO sampling procedure for location of sample stations).

(1) 002

(2) 003

(3) 004

(4) 005

(5) 006

(6) 007

5. Procedure

a. Turn the starting switch "ON" and let the Ecolyzer run for a minimum of five minutes to warm up.

b. Turn switch to "ZERO" and wait approximately two minutes.

c. Adjust the needle to zero using the "ZERO" calibration screw.

AIR QUALITY MONITORING PROGRAM

N.E. UNION AVE. - N.E. 82nd AVE. SECTION
COLUMBIA RIVER HWY. - INT. - SON
MULTNOMAH COUNTY, OREGON

DATE OF SAMPLE _____ DATE OF ANALYSIS _____

LOCATION _____ WEATHER _____

CARBON MONOXIDE

TIME	PPM TEST #1	PPM TEST #2	PPM AVERAGE	COMMENTS
7:00 - 8:00 AM				
8:00 - 9:00 AM				
9:00 - 10:00 AM				
10:00 - 11:00 AM				
11:00 - 12:00 Noon				
12:00 - 1:00 PM				
1:00 - 2:00 PM				
2:00 - 3:00 PM				
3:00 - 4:00 PM				
4:00 - 5:00 PM				
5:00 - 6:00 PM				
6:00 - 7:00 PM				
AVERAGE				

FIGURE A-20

d. Obtain a Tedlar bag of span gas from control bottle of gas.

e. Attach the bag to the tubing and open the valve being careful not to allow any gas to escape from or enter into the bag.

f. Turn switch to "ON" and wait until the needle stops. Adjust the needle at "CAL" using the calibration screw to the proper valve of the span gas as marked on the bottle of span gas.

g. Close valve on the bag and remove from tubing. Be careful not to allow any gas to escape from or enter into the bag.

h. Check zero needle reading. If necessary, adjust as in steps b. and c.

i. Turn starting switch to "ON". Leave Ecolyzer in "ON" position while testing the field samples.

j. Attach sample bag to be tested to the tubing.

k. Open valve and read the meter after about one minute.

l. Record reading on forms according to time and location.

m. Close valve and remove bag from tubing.

n. Repeat steps j. thru m. for two more samples.

o. After every third sample, check zero needle reading as per step No. b. above. If adjustment is needed (needle not zero after two minutes), adjust according to step No. c. above.

p. Repeat steps i. thru o.

q. After the sixth sample, recalibrate the Ecolyzer following steps No. b. thru h.

r. Repeat steps i. thru q. until all samples have been checked.

NOTE: Additional information may be acquired by reading the American Laboratory, July, 1974, Bulletin titled:

"CONTROLLED-POTENTIAL ELECTROCHEMICAL ANALYSIS OF CARBON MONOXIDE"

by K. F. Blurton & H. W. Bay

TASK D-5 COLLECTION, TESTING AND RECORDING OXIDES OF NITROGEN (NO AND NOx) PRESENT IN THE AMBIENT AIR WITHIN THE BANFIELD CORRIDOR

1. Purpose

To determine the relative amount of oxides of nitrogen (NO AND NOx) along the Banfield Corridor for future comparison with other data.

2. Time

Continuous sampling is required. Although the collection, testing and recording is performed on a continuous basis, the testing and recording equipment needs to be checked for accuracy. This testing is to be done by a skilled technician every Monday, Wednesday and Friday of each week during the regular day shift hours.

3. Place

The testing for this project is performed at the Environmental Trailer's permanent location at a point approximately 200 ft. south of the intersection of N. E. 19th and Multnomah Streets in a large parking lot.

4. Equipment Required for Sampling, Testing and Recording the Oxides of Nitrogen

a. A vehicle to get to and from the test location.

b. The proper keys to gain entry to the gate and Environmental Trailer. Keys may be obtained from Mr. William McConnel at the Oregon State Highway Division, 5821 N. E. Glisan Street, Portland, Oregon

c. Security fence with gate for protection of the trailer and equipment from vandalism.

d. Environmental Test Trailer with the following minimum requirements:

(1) Tandem axles are required due to the size and type of trailer constructed to hold the sampling, testing and recording equipment that will be required for this project.

(2) The testing equipment used in the trailer requires that inside temperatures be held at 72 degrees F (22 degrees C) which requires both heating and air conditioning equipment.

(3) Safety requires an explosion-proof closet inside the trailer for storage of combustible gas cylinders.

(4) Safety also requires explosion-proof fixtures inside the explosion-proof closet.

(5) Equipment bench with racks for equipment mounting.

(6) 220 volt power service.

(7) Circuit panels for both 110 volt and 220 volt circuits.

(8) 110 volt outlets on the equipment bench and at various locations throughout the trailer.

(9) Two sets of portable trailer steps for access to trailer and equipment.

(10) Leveling blocks for trailer. (Trailer must be level for proper operation of test equipment.)

(11) Step stool inside trailer for servicing equipment.

(12) Adequate lighting for entire testing area.

e. Type of equipment used and required for testing for NO and NOx.

(1) D.A.S. time clock and calendar date with D.A.S. LOGIC PACK UNIT.

(2) M.L. (monitor labs) Nitrogen Oxides Analyzer Model #8440.

(3) 8500 Calibrator.

(4) Two L. & N. Record Strip Graph Recorder as manufactured by Speedomax G.

(a) One for NO.

(b) One for NOx.

(5) Two Oxone dryers (in series).

(6) One gas bottle of HO_2 Calibration gas.

f. Forms for recording and checking equipment. (Figure A-20)

(1) Rolls of strip graph paper for the L. & N. recorders.

NOTE: Adequate supply should always be maintained in the Environmental Trailer to avoid delivery problems.

(2) Two 8½x11 premade forms titled Air Pollution Monitor No. (for the NOx form add x to the NO as required) (Fig A-21-22)for recording hourly average from the graph paper for NO and NOx recorders. Note: All the above forms and graph papers are maintained by William McConnel in the Oregon State Highway Building at 5821 N. E. Glisan Street, Portland, Oregon. The graph paper is furnished by Arlo Bones, Electrical Shop, Salem, Oregon, upon notification of need.

Check and record the following: Banfield Environmental Van

NOX Analyzer	Min Value	Max Value	Monday	Wednesday	Friday
Vacuum Gauge	24 lbs	24 lbs			
NOX Flow	550	- -			
NO Flow	550	- -			
Ozone Flow	100	- -			
NOX Calib. Unit					
(Note #1)					
PSI Gauge	23.8	24.2			
NO Flow	2.15	2.15			
Ozone Flow	5.6	5.6			
NO Calib. Bottle					
Bottle Pressure	100 lbs	- -			
Output Pressure	34 lbs	36 lbs			
(Note #2)					
Oscillagraph					
NO Zero	0.9	1.1			
NO Span 1	±10%	of			
NO Span 2	Calib	Value			
NOX Zero	0.9	1.1			
NOX Span 1	±10%	of			
NOX Span 2	Calib.	Value			

(Note #1) Turn NOX Calib. control panel ready switch on.
(Note #2) Turn NOX Calif. control panel ready switch off.

FIGURE A-21

Banfield Envoronmental Van
Check the following:

DAS		Monday	Wednesday	Friday
Time (Note #3)	Actual			
	Display			
Oscillagraphs Time (Note #4)	Actual			
	Graph			
Paper (Note #5)				
Drierite Filter (Note #6)	%left			
NOX Ambient Air Filter	Replace every Two Weeks- Date Changed			
Charcoal Filter (Note #7)	% left			

(Note #3) Check time by turning display switch on. If time is incorrect, record time of DAS and the acutal time. Correct DAS time using time switches. When through, turn time and display switches off.

(Note #4) If graph time is incorrect, record actual time on graph and in this log. Record graph time in log. To correct time, move graph forward.

(Note #5) Refill ink pens when paper is changed.

(Note #6) Replace if one inch or less of blue is left.

(Note #7) As charcoal is used up it turns to a dull appearance.

FIGURE A-21 cont.

AIR POLLUTION MONITOR

NO

DAY: DATES: DAY:

TIME	READING	CORRECTION	TIME	READING	CORRECTION
12pm			12pm		
11pm			11pm		
10pm			10pm		
9pm			9pm		
8pm			8pm		
7pm			7pm		
6pm			6pm		
5pm			5pm		
4pm			4pm		
3pm			3pm		
2pm			2pm		
1pm			1pm		
12n			12n		
11am			11am		
10am			10am		
9am			9am		
8am			8am		
7am			7am		
6am			6am		
5am			5am		
4am			4am		
3am			3am		
2am			2am		
1am			1am		

FIGURE A-22

AIR POLLUTION MONITOR
NO_x

DAY:		DATES:		DAY:	
TIME	READING	CORRECTION	TIME	READING	CORRECTION
12pm			12pm		
11pm			11pm		
10pm			10pm		
9pm			9pm		
8pm			8pm		
7pm			7pm		
6pm			6pm		
5pm			5pm		
4pm			4pm		
3pm			3pm		
2pm			2pm		
1pm			1pm		
12n			12n		
11am			11am		
10am			10am		
9am			9am		
8am			8am		
7am			7am		
6am			6am		
5am			5am		
4am			4am		
3am			3am		
2am			2am		
1am			1am		

FIGURE A-23

g. Pens, pencils, etc. for recording data.

h. An accurate time piece set to the correct time of day and knowledge of the correct date and day of the week.

5. Personnel needed for Test Equipment Operation and Maintenance

Two persons can be used, but only one person (a skilled technician) is required for general maintenance, recording data and adjustment of equipment. This person must be trained or instructed by a person knowledgeable on the above equipment and the procedure that we require for operation, maintenance and replacement of minor items required for testing. They should also be capable of recognizing major problems with the test equipment, records, etc.

NOTE: For corrections, repairs, etc. of major items, all work shall be referred to Arlo Bones, Electrical Shop, Salem, Oregon, phone number 378-2139.

6. Procedure.

a. The skilled technician before going to the Environmental Trailer location should do the following:

(1) Make sure that he has the proper forms and graph charts (if the supply at the trailer was low during the preceding visit).

(2) Make sure that his time piece (watch) is set to the correct time of day.

(3) Make sure that pencil, pen, keys, etc., and miscellaneous materials that would be required are taken.

b. Proceed to the Environmental Trailer location using vehicle and making sure all items required in a. above are taken.

c. Park the vehicle next to the Environmental Trailer and proceed to unlock the gate and the trailer.

d. Enter the trailer, turn on the lights, and shut the door so as to maintain the inside air temperature at 72 degrees (22 degrees C).

e. Proceed to check and record data using the two required forms as outlined for steps required.

(1) Directly above the correct day of the week on both sheets the skilled technician shall enter the date and above that the intitals of the person or persons recording and taking data.

(2) Starting with the "Check and record the following" sheet, the data be entered following the form outline, all instructions as noted on the form and as listed below:

(a) NOx Analyzer

1) Read and record the vacuum guage.

2) Read and record the NOx flow.

3) Read and record the NO flow.

4) Read and record the Ozone flow.

NOTE: If there is any substantial variation in any of the above readings below the minimum or above the maximum shown on the forms, Arlo Bones should be notified by phone so that corrections can be made by him.

(b) NOx Calibration Unit

1) Following the instructions under NOTE #1, (Figure A-20) turn NOx Calibration Control panel ready switch to ON and allow warm-up time and then read and record the following:

a) P.S.I. guage.

b) NO flow.

c) OZ flow.

NOTE: Manually adjust if needed any of the above items if the reading varies from the values shown on the form.

(c) NO Calibration Bottle

1) Bottle pressure. Note: If pressure is below 100 lbs., the bottle shall be replaced with a new one. Also, pressures below 100 will cause item 2) below to vary from the min/max allowable readings.

2) Output pressure. No adjustment should be required. Normally item No. 1) above is the only correction required.

(d) Follow instructions under note 2), (Figure A-20) turn NO_x calibration control panel ready switch to OFF and continue to next step.

(e) Oscillograph - Read and record the following: Note: They should be within the min/max limits shown on the form.

1) NO zero.

2) NO span 1.

3) NO span 2.

4) NOx zero.

5) NOx span 1.

6) NOx span 2.

(f) Continue to the second sheet titled "Check the following" and continue reading, recording and correcting equipment as follows, still using the form and notes as an outline for procedure.

(g) D.A.S.

(h) Time (note 3, FigureA20).- Read and record actual time from your watch and displayed time of the digital readout, following the instructions in note 3.

(i) Note 3 instructions - (Figure A20). Check the time by turning the display switch to on. If the time is incorrect, record the time of DAS and the actual time. Correct the DAS time using the time switches. When you are through, turn the time and display switches off.

(j) Oscillographs (two L. & N. recorders).

(KO Time (note 4, FigureA20) - Actual and graph time readings need to be taken for both the NO recorder and the NOx recorder and recorded separated in the correct day of week column.

(l) (Note 4, FigureA20). If graph time is incorrect, record the actual time on the graph and in this log. Record the graph time in the log. To correct time, move graph forward.

(m) Paper - (note 5, Figure A20)- Refill ink pens when paper is changed.

1) Always change paper when there is not enough paper left in the roll to run until the next visit.

2) When changing paper, always note the date and the actual time on both the ends of the new and old rolls. Make sure the new roll is set to the proper time on the roll and that the pen is working.

(n) Drierite filter (note 6, FigureA20).- Replace if one inch or less of blue coloring is left.

(o) NOx ambient air filter - Replace every two weeks and

record the date last changed on the form.

(p) Charcoal filter (note 7, Figure A20) As the charcoal is used up it turns to a dull appearance.

f. After all records are complete, the technician should take all recorded data forms and rolls of graph paper that may have been removed from the recorders to William McConnel's office for filing and submitting to the D.E.Q., Salem, Oregon.

g. Upon completion of the required work at the Environmental Trailer, the steps b. through d. should be reversed, making sure that all testing equipment is operating correctly and the lights are out and all locks are secure.

h. After returning to the office, or when work schedule permits, the rolls of graph paper should be interpreted and transcribed into the correct form for future storage in the computer at Salem as follows:

(1) Using a straight edge, approximate the hourly average on the rolls by the hour scale shown and enter the value on the form by the hour. Use one form for each 24-hour period and separate forms for NO and NOx rolls. (Fig A23)

(2) After each roll is transcribed to the daily form by hour average, the roll and the daily sheet shall be sent to the Environmental Section of the Oregon Department of Transportation, Salem, Oregon, Attention Byron Meadows.

(3) The Banfield Environmental Van Data Sheets (two taken each day) should be sent to the same place (item #2 above) once a month, or when rolls are submitted.

(4) Copies of item #2 daily form and item #3 forms should be kept in the file located at William McConnel's office. Do not keep copies of the graph rolls or the originals at the trailer.

17th & Multnomah NO & NOX Uncorrected

Year	Station ID	Station Loc.	Averaging Int.	Julian Day
	8 8	0 1	6 0	
1 2	3 4	5 6	7 8	9 10 11

Ch ID	Ch ID
6	7
16	24

12 15 Hour Min.				17 23 Status NO Reading		25 31 Status NOX Reading		Remarks
	1	0	0	0		0		
	2	0	0	0		0		
	3	0	0	0		0		
	4	0	0	0		0		
	4	3	0 Zero	3	Zero	3		
	4	4	5 Span	4	Span	4		
	5	0	0	0		0		
	6	0	0	0		0		
	7	0	0	0		0		
	8	0	0	0		0		
	9	0	0	0		0		
1	0	0	0	0		0		
1	1	0	0	0		0		
1	2	0	0	0		0		
1	3	0	0	0		0		
1	4	0	0	0		0		
1	5	0	0	0		0		
1	6	0	0	0		0		
1	7	0	0	0		0		
1	8	0	0	0		0		
1	9	0	0	0		0		
2	0	0	0	0		0		
2	1	0	0	0		0		
2	2	0	0	0		0		
2	3	0	0	0		0		
2	4	0	0	0		0		

FIGURE A-24

INDEX
APPENDIX B

BANFIELD MONITORING PROGRAM TRAFFIC DATA

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Appendix A described the techniques used to gather the data in the Banfield HOV Lanes Monitoring Program. Appendix B is a summary of the information gathered and the figures that were used to arrive at the conclusions in the main body of this report.

TABLE B-1 BANFIELD FREEWAY

WESTBOUND		JANUARY		FEBRUARY		MARCH		APRIL		MAY	
TIME	YEAR	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV
6:30-7:00	1975										
	1976	58	1443	48	1576	63	1513	47	1552	31	1614
	1977	53	1893	57	1712	50	1828	57	1826	44	1818
7:00-7:30	1975										
	1976	114	1617	102	1895	92	2012	110	1712	91	1863
	1977	101	2208	91	1910	103	2207	86	2062	80	2022
7:30-8:00	1975										
	1976	125	1634	149	1882	104	1788	144	1557	103	1970
	1977	102	2072	105	1927	107	1915	95	1943	81	1754
8:00-8:30	1975										
	1976	77	1505	52	1585	48	1518	80	1665	52	1568
	1977	53	1735	57	1796	65	1645	40	1665	63	1608
EASTBOUND											
4:00-4:30	1975										
	1976	108	1533	89	1883	118	1782	83	1797	112	1637
	1977	106	2177			108	1810	117	1732	129	1933
4:30-5:00	1975										
	1976	134	1529	113	1751	148	1806	100	1938	115	1654
	1977	104	1927	103	1807	114	1859	116	1856	113	1906
5:00-5:30	1975										
	1976	143	1578	123	1715	142	1822	115	1864	121	1808
	1977	106	1926	109	1830	123	1904	110	1790	138	2002
5:30-6:00	1975										
	1976	104	1347	72	1586	76	1414	96	1728	100	1770
	1977	79	1892			98	1768	80	1722	92	1749

LANE COUNTS AT 47TH AVENUE

See Appendix A, Task A-1, pages A-1 through A-14, for procedures used to obtain figures

JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV
	1710										1581		1271
44	1707	45	1714	37	1774	41	1775	46	1637	52	1704	54	1542
55	1884												
	2025										1795	108	1686
80	1926	83	1873	77	1905	87	1928	90	1714	84	1958	69	1844
102	1924												
	1964										1740	88	1615
105	1866	97	1911	86	1793	99	2062	82	1656	100	1859	70	1731
96	1828												
	1829										1554		1523
54	1674	53	1659	52	1600	46	1856	39	1423	45	1651	41	1506
73	1689												
	1738										1628		1720
111	1723	137	1724	142	1714	87	1851	96	1788	111	1851	139	2083
141	1715												
	1814												
139	1767	145	1741	139	1747	87	1842	111	2007	96	1836	136	1905
141	1717												
	1787												
141	1637	129	1731	143	1735	113	1808	122	2004	124	1941	126	1757
142	1837												
	1733												
105	1512	101	1769	154	1618	105	1799	94	1851	113	1870	129	1808
126	1760												

TABLE B-2 BANFIELD FREEWAY

	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
82nd Ave. (ON)						
AWD	1975					
	1976	15,782	15,849	16,886	16,800	17,134
	1977	16,295	16,704	16,811	16,966	17,312
58th Ave. (ON)						
AWD	1975					
	1976	7,745	8,169	8,757	9,011	9,023
	1977	8,991	9,159	9,013	9,045	
42nd Ave. (OFF)						
AWD	1975					
	1976	3,162	3,309	3,451	3,567	3,475
	1977	3,380		3,643	3,694	3,544
37th Ave. (ON)						
AWD	1975					
	1976	9,589	9,501	9,831	9,918	9,930
	1977	9,625	9,643	9,401	9,547	9,639
33rd Ave. (ON)						
AWD	1975					
	1976	3,859	3,781	3,908	4,017	3,986
	1977	4,035	4,083	3,920	4,214	3,721
Holladay St. (OFF)						
AWD	1975					
	1976	6,227	6,103	6,817	6,640	6,444
	1977	7,538	6,683	6,751	6,524	6,919

RAMP COUNTS BY TIME

TIME						
82nd Ave. (ON)						
6:00-7:00	1975					
	1976	930	898	912	999	997
	1977	927	944	911	984	1027
58th Ave. (ON)						
6:00-7:00	1975					
	1976	495	525	545	627	635
	1977	633	604	611	662	728
42nd Ave. (OFF)						
6:00-7:00	1975					
	1976	89	89	102	104	118
	1977	109		105	108	116
			101			

RAMP COUNTS (WESTBOUND)

See Appendix A, Task A-1, pages A-1 through A-14 for counting procedures.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	17,062		15,804	15,432	15,730	16,670
17,105	17,197	17,239		16,371	16,413	17,655
	9,165		10,803	8,248	8,453	8,684
8,922	8,846	8,759	8,896	8,924	8,989	9,407
	3,810		3,740	3,378	3,488	3,232
3,536		3,658	3,498	3,420	3,406	3,400
	9,821		9,727	9,287	9,586	9,970
9,834	9,672	9,575	9,769	9,855	9,947	10,086
	4,047		3,990	3,900	3,871	3,800
3,975	3,998	3,902	3,980	3,831	4,081	4,068
	7,313		5,911		6,321	7,925
7,065	7,555	7,097	6,617	6,939	6,581	7,360
	1,018		932	892	906	917
995	998	960		968		
	652		711	590	577	532
532	580	593	629	652	620	636
	104		121	97	107	91
115		92	101	98	95	94
			102			

RAMP COUNTS WESTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
37th Ave. (ON)						
6:00-7:00	1975					
	1976	457	424	434	495	379
	1977	414	429	408	447	438
33rd Ave. (ON)						
6:00-7:00	1975					
	1976	168	168	168	162	166
	1977	167	179	104	190	157
Holladay St. (OFF)						
6:00-7:00	1975					
	1976	264	290	293	322	312
	1977	343	321	315	332	376
82nd Ave. (ON)						
7:00-8:00	1975					
	1976	1320	1300	1312	1300	1206
	1977	1084	1138	1134	1152	1124
58th Ave. (ON)						
7:00-8:00	1975					
	1976	667	809	852	898	906
	1977	929	914	916	913	942
42nd Ave. (OFF)						
7:00-8:00	1975					
	1976	145	155	155	157	141
	1977	112		139	126	147
37th Ave. (ON)						
7:00-8:00	1975					
	1976	1067	1051	1025	1071	1124
	1977	1051	1106	954	1092	1091
33rd Ave. (ON)						
7:00-8:00	1975					
	1976	372	370	361	381	373
	1977	378	402	426	270	414
Holladay St. (OFF)						
7:00-8:00	1975					
	1976	554	593	629	659	564
	1977	672	627	612	635	629

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	435		419	421	400	404
483	494	464	453	449	459	418
	180		169	176	161	151
174	165	143	160	152	178	167
	299		228		251	263
346	998	960		968	933	932
	1,223		1,095	946	975	1,009
1,146	1,150	1,228		1,036	1,044	1,071
	939		959	881	839	823
859	818	867	888	822	908	879
	157		149	114	136	116
163		155	142	128	114	113
	435		419	421	400	404
1,053	995	957	1,106	1,163	1,147	1,088
	372		373	397	379	340
363	358	341	371	383	399	378
	617		541		501	526
346	603	617	589	600	525	503

RAMP COUNTS WESTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
82nd Ave. (ON)						
8:00-9:00	1975					
	1976	1067	1103	1126	1203	1127
	1977	993	1076	1030	1139	1077
58th Ave. (ON)						
8:00-9:00	1975					
	1976	566	622	633	693	677
	1977	701	716	669	721	722
42nd Ave. (OFF)						
8:00-9:00	1975					
	1976	215	252	253	275	251
	1977	242		252	244	268
37th Ave. (ON)						
8:00-9:00	1975					
	1976	837	799	797	832	842
	1977	863	818	722	800	797
33rd Ave. (ON)						
8:00-9:00	1975					
	1976	346	333	327	378	345
	1977	381	386	380	393	345
Holladay St. (OFF)						
8:00-9:00	1975					
	1976	477	490	535	513	500
	1977	594	555	508	554	563

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1,089	1,024 1,066	1,069	1,039	1,042 1,054	1,052 1,057	992 1,057
692	658 638	658	755 672	643 678	639 670	612 667
250	284	254	282 248	240 245	233 238	203 230
756	743 762	731	786 782	797 822	841 813	779 775
304	322 314	317	334 365	374 350	379 375	321 358
508	515 504	503	543 502	473	459 480	504 477

TABLE B-3 BANFIELD FREEWAY

	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
3rd Ave. (Union - ON)						
AWD	1975					
	1976	2,534	2,388	2,727	2,619	2,725
	1977	2,695	2,645	2,736	2,713	2,846
Grand Ave. (ON)						
AWD	1975					
	1976	2,774	2,767	2,983	2,942	3,096
	1977	2,857	2,987	3,097	3,015	3,127
16th Ave. (ON)						
AWD	1975					
	1976	4,518	4,529	4,931	4,943	4,974
	1977	4,851	4,838	4,962	5,033	5,104
33rd Ave. (OFF)						
AWD	1975					
	1976	5,255	5,406	5,686	5,686	5,736
	1977	5,761	5,759	5,678	5,776	5,925
39th Ave. (OFF - SOUTH)						
AWD	1975					
	1976	2,408	2,427	2,553	2,535	2,769
	1977	2,469	2,455	2,467	2,533	2,552
39th Ave. (OFF - NORTH)						
AWD	1975					
	1976	4,680	4,619	4,792	4,756	4,821
	1977	4,615	4,678	4,505	4,631	4,664
41st Ave. (ON)						
AWD	1975					
	1976	3,300		3,576	3,518	3,713
	1977	3,433	3,451	3,609	3,625	3,593
57th Ave. (OFF)						
AWD	1975					
	1976	4,846	5,038	5,142	5,294	5,333
	1977	5.208	5,155	5,036	5,220	5,258

RAMP COUNTS (EASTBOUND)

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	2,793		2,452	2,446	2,437	2,645
2,731	2,781	2,729	2,694	2,744	2,739	2,893
	3,126		2,936	2,830	2,806	2,801
3,207	3,175	3,136	3,038	2,944	2,949	2,995
	5,057		4,605	4,501	4,571	5,783
5,003	5,271	5,173	4,930	4,977	5,161	6,111
	5,543		5,542	5,477	5,324	5,344
5,547	5,763	5,700	5,578	5,639	5,693	5,757
	2,803		2,763	2,597	2,578	2,454
2,515	2,572	2,516	2,565	2,595	2,639	2,469
	4,985		4,863	4,777	4,548	4,577
4,714	4,588	4,572	4,699	4,719	4,608	4,755
		3,748	4,411	3,453	3,353	3,446
3,727	3,776	3,797	3,539	3,504	3,502	3,547
	4,949		4,756	4,850	4,653	4,877
5,191	5,038	5,001	5,130	5,231	5,253	5,314

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
60th Ave. (ON)						
AWD	1975					
	1976	1,281	1,306	1,318	1,379	1,417
	1977	1,423	1,434	1,512	1,537	1,520
68th Ave. (OFF)						
AWD	1975					
	1976	3,528	2,877	2,804	3,735	3,707
	1977	3,663		3,598	4,066	4,211
82nd Ave. (OFF)						
AWD	1975					
	1976	6,201	6,314	7,227	6,914	7,101
	1977	6,833	6,809	7,091	7,225	7,534

RAMP COUNTS BY TIME

3rd Ave. (Union ON)						
3:00-4:00	1975					
	1976	236	210	229	241	231
	1977	255	238	233	221	251
Grand Ave. (ON)						
3:00-4:00	1975					
	1976	219	215	236	230	234
	1977	230	234	251	249	236
16th Ave. (ON)						
3:00-4:00	1975					
	1976	415	424	436	447	456
	1977	458	447	467	478	475
33rd Ave. (OFF)						
3:00-4:00	1975					
	1976	377	426	404	384	413
	1977	436	414	399	425	424
39th Ave. S (OFF)						
3:00-4:00	1975					
	1976	185	192	192	223	260
	1977	203	197	206	193	206

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1,455	1,009 1,457	1,408	1,418	1,227 1,391	1,233 1,391	1,264 1,437
3,517	3,478 3,383	3,364	3,202 3,638	3,359 3,624	3,300	3,104 3,766
7,628	6,544 7,382	7,460	6,629 7,105	6,310 7,173	6,173 7,002	6,794 7,542
227	238 248	231	199 230	213 238	195 234	230 246
239	238 254	238	244 246	233 228	211 234	204 245
431	454 474	496	410 442	409 451	366 492	487 552
410	395 407	390	387 419	424 401	388 413	390 380
200	254 210	210	250 224	221 216	198 215	209 204

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
39th Ave. N (OFF)						
3:00-4:00	1975					
	1976	360	363	352	383	375
	1977	375	353	380	344	390
41st Ave. (ON)						
3:00-4:00	1975					
	1976	225	247	256	266	264
	1977	248	233	234	234	249
57th Ave. (OFF)						
3:00-4:00	1975					
	1976	372	404	431	421	428
	1977	429	394	374	430	398
60th Ave. (ON)						
3:00-4:00	1975					
	1976	100	116	104	115	114
	1977	104	112	100	106	113
68th Ave. (OFF)						
3:00-4:00	1975					
	1976	307	260	236	331	317
	1977	341		332	346	387
82nd Ave. (OFF)						
3:00-4:00	1975					
	1976	472	500	512	499	489
	1977	500	498	527	490	553
3rd Ave. (Union ON)						
4:00-5:00	1975					
	1976	265	244	281	270	272
	1977	262	256	260	270	279
Grand Ave. (ON)						
4:00-5:00	1975					
	1976	199	198	226	218	229
	1977	216	199	221	222	216

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
361	374 356	349	391 371	384 370	341 369	351 385
253	249 257	252 245	262 239	246 232	245 226	240 243
409	371 406	385	344 392	386 431	302 426	399 451
99	75 113	88	45 114	100 92	95 108	93 109
311	326 321	315	290 317	299 319	267	254 314
515	501 504	507	445 502	443 469	434 501	429 517
262	265 249	253	199 243	235 265	206 262	239 287
209	204 209	214	185 204	179 214	174 205	177 202

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
16th Ave. (ON)						
4:00-5:00	1975					
	1976	542	449	588	567	546
	1977	575	563	588	599	589
33rd Ave. (OFF)						
4:00-5:00	1975					
	1976	391	410	429	406	463
	1977	412	442	446	427	468
39th Ave. (OFF-SOUTH						
4:00-5:00	1975					
	1976	249	236	275	238	299
	1977	260	258	267	275	273
39th (OFF-NORTH)						
4:00-5:00	1975					
	1976	455	452	468	453	504
	1977	485	493	502	443	521
41st Ave. (ON)						
4:00-5:00	1975					
	1976	233	259	248	242	224
	1977	231	223	225	244	228
57th Ave. (OFF)						
4:00-5:00	1975					
	1976	405	413	374	400	319
	1977	420	357	404	386	357
60th Ave. (ON)						
4:00-5:00	1975					
	1976	111	120	130	125	133
	1977	124	132	120	135	136

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
568	542 572	594	474 538	504 556	476 540	571 623
395	388 404	434	434 387	394 415	374 411	369 401
274	303 287	276	332 245	328 280	362 297	221 287
493	455 463	461	509 465	489 487	452 443	414 469
236	273 218	275 238	351 233	240 214	189 217	222 215
333	323 341	357	267 381	288 360	223 339	352 357
122	94 126	113	52 127	108 128	113 134	109 116

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
68th Ave. (OFF)						
4:00-5:00	1975					
	1976	327	259	249	330	287
	1977	317		306	336	349
82nd Ave. (OFF)						
4:00-5:00	1975					
	1976	426	439	468	444	443
	1977	456	424	445	457	469
3rd Ave. (Union - ON)						
5:00-6:00	1975					
	1976	232	231	244	220	233
	1977	260	247	251	253	258
Grand Ave. (ON)						
5:00-6:00	1975					
	1976	198	202	216	212	198
	1977	216	199	221	222	216
16th Ave. (ON)						
5:00-6:00	1975					
	1976	478	444	479	469	461
	1977	469	443	468	446	485
33rd Ave. (OFF)						
5:00-6:00	1975					
	1976	395	420	434	446	462
	1977	463	450	458	443	450
39th Ave. (OFF-SOUTH)						
5:00-6:00	1975					
	1976	234	240	256	253	279
	1977	238	237	243	262	245
39th Ave. (OFF-NORTH)						
5:00-6:00	1975					
	1976	455	452	468	453	504
	1977	461	483	399	478	484

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
262	263 285	288	211 289	256 281	193	248 300
465	432 456	477	389 479	380 460	338 432	477 428
243	223 232	234	212 246	205 249	184 228	198 242
199	193 198	198	167 188	185 204	160 185	169 180
470	474 472	487	431 477	447 476	346 433	492 501
373	399 421	411	358 449	402 458	390 446	337 455
242	284 230	259	302 221	284 268	233 269	195 247
442	508 433	478	498 485	506 494	390 476	344 464

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
41st Ave. (ON)						
5:00-6:00	1975			311	314	317
	1976	280	260	266	288	290
	1977	274				
57th Ave. (OFF)						
5:00-6:00	1975		317	326	311	287
	1976	308	292	329	324	332
	1977	335				
60th Ave. (ON)						
5:00-6:00	1975		107	127	135	136
	1976	111	131	136	144	144
	1977	134				
68th Ave. (OFF)						
5:00-6:00	1975		213	217	267	263
	1976	261		278	316	305
	1977	267				
82nd Ave. (OFF)						
5:00-6:00	1975		361	404	373	360
	1976	357	341	374	376	419
	1977	368				

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
300	344 296	327 275	365 287	309 278	270 251	298 253
287	258 277	268	225 309	271 303	250 303	278 315
133	89 147	60 129	125 124	130 121	134 124	130
255	242 233	239	200 262	268 261	212	222 259
387	352 388	376	321 400	330 359	300 378	332 371

TABLE B-4. ARTERIAL STREET

	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
AWD						
East Burnside @21st						
Street Counts	1975					
" "	1976		9,553	9,271	9,168	9,297
" "	1977	8,128	8,811	8,406	9,009	
AWD						
N.E. Sandy @20th						
Street Counts	1975					
" "	1976	9,326	9,512	9,412	9,983	9,861
" "	1977	10,146	9,259	9,105	9,495	9,156
AWD						
N.E. Broadway @21st						
Street Counts	1975					
" "	1976	16,611	14,750	15,863	16,005	15,489
" "	1977	14,321	14,529	14,942	15,228	14,634
AWD						
N.E. Sandy @41st						
Street Counts	1975					
" "	1976	13,328	13,166	13,537	13,502	13,220
" "	1977	12,436	12,602	12,654	13,393	12,854

COUNTS WESTBOUND (YEARLY)

See Appendix A, Task A-1, pages A-1 through A-14 for counting procedures used.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
8,775 9,021	8,636	8,764	9,163	8,944	9,302 8,892	9,011
9,717 9,444	9,587	9,768		9,517	9,871 9,576	10,157 9,815
15,526 14,530	14,659	14,615	15,342 14,803	14,929	14,790 14,943	15,590
13,024	12,923		13,278 13,217	12,794	12,662 12,573	14,067 12,536

TABLE B-5 ARTERIAL STREET

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
6:00-7:00						
East Burnside	1975					
	1976		397	409	426	412
@ 21st	1977	437	439	415	450	
N.E. Sandy	1975					
	1976	325	323	403	341	321
@ 20th	1977	355	338	338	376	295
N.E. Broadway	1975					
	1976	404	404	453	454	429
@ 21st	1977	417	417	418	441	383
N.E. Sandy	1975					
	1976	501	485	624	548	553
@ 41st	1977	532	513	588	547	493
7:00-8:00						
East Burnside	1975					
	1976		1,280	1,199	1,143	1,197
@ 21st	1977	1,108	1,191	1,164	1,209	NA
N.E. Sandy	1975					
	1976	962	975	1,023	1,009	1,006
@ 20th	1977	1,062	1,012	1,076	1,082	973
N.E. Broadway	1975					
	1976	1,413	1,251	1,307	1,346	1,304
@ 21st	1977	1,250	1,284	1,425	1,371	1,246
N.E. Sandy	1975					
	1976	1,039	943	1,014	1,006	1,012
@ 41st	1977	984	1,004	1,021	1,046	1,004
8:00-9:00						
East Burnside	1975					
	1976		875	810	755	793
@ 21st	1977	747	765	759	748	NA
N.E. Sandy	1975					
	1976	755	783	849	795	793
@ 20th	1977	952	739	740	762	818
N.E. Broadway	1975					
	1976	1,162	1,003	1,393	1,062	1,038
@ 21st	1977	1,132	1,050	1,088	1,027	1,022
N.E. Sandy	1975					
	1976	894	873	849	875	883
@ 41st	1977	843	876	844	934	874

COUNTS WESTBOUND (BY TIME)

See Appendix A, Task A-1, pages A-1 through A-14 for procedures used.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
389 432	396	406	430	418	415 417	429
330 326	318	295		308	356 362	374 337
428 393	375	389	404 401	395	413 448	422
526	533		601 553	539	492 576	513 535
729 636	708	663	817	786	836 786	829
779 809	742	757		794	803 770	877 816
1,036	941	895	1,098 1,024	1,052	1,044 1,101	1,116
864	850		858 879	854	860 827	926 831
1,099 1,117	1,092	1,081	1,205	1,223	1,193 1,211	1,212
1,017 1,050	992	947		1,001	1,122 1,078	1,182 1,065
1,301 1,251	1,217	1,227	1,259 1,275	1,332	1,358 1,404	1,387
950	995		1,028 999	1,027	965 1,026	1,060 981

TABLE B-6 ARTERIAL STREET

	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
AWD						
E. Burnside @21st						
Street Counts	1975					
" "	1976	8,487	8,652	8,666	8,983	8,944
" "	1977	7,793	8,700	8,598	8,775	
AWD						
N.E. Sandy @20th						
Street Counts	1975					
" "	1976	9,326	9,677	9,934	9,695	9,610
" "	1977	8,649	9,064	9,291	9,466	9,296
AWD						
N.E. Weidler @21st						
Street Counts	1975					
" "	1976		10,202	10,888	11,154	11,755
" "	1977	10,082	11,305	10,966	11,396	10,354
AWD						
N.E. Sandy @41st						
Street Counts	1975					
" "	1976	12,147	12,456	12,331	12,810	12,262
" "	1977		11,875	12,106	12,567	12,342

COUNTS EASTBOUND (YEARLY)

See Appendix A, Task A-1, pages A-1 through A-14 for counting procedures used.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
JUNE						
8,388	8,550	8,595	9,797		9,594	8,759
8,823			8,976	8,713	8,686	8,766
10,000	8,819	9,063	9,143		9,468	
9,525			9,208	9,075	8,979	9,213
10,235	10,644	10,711	11,697	11,296	11,098	11,716
10,170						
12,948	13,512		11,347		12,975	13,802
			12,686	11,941	11,752	12,294

TABLE B-7 ARTERIAL STREET

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
3:00-4:00						
E. Burnside @ 21st	1975					
	1976	757	758	742	778	781
	1977	738	777	742	759	
N.E. Sandy @ 20th	1975					
	1976	775	827	863	788	807
	1977	756	766	792	801	794
N.E. Weidler @ 21st	1975					
	1976		877	961	962	994
	1977	897	965	862	950	849
N.E. Sandy @ 41st	1975					
	1976	943	962	962	996	964
	1977		948	957	951	973
4:00-5:00						
E. Burnside @ 21st	1975					
	1976	1,123	1,086	1,089	1,153	1,143
	1977	1,031	1,124	1,116	1,124	
N.E. Sandy @ 20th	1975					
	1976	1,158	1,219	1,140	1,203	1,199
	1977	1,129	1,118	1,200	1,171	1,169
N.E. Weidler @ 21st	1975					
	1976		1,203	1,308	1,346	1,370
	1977	1,220	1,360	1,321	1,308	1,182
N.E. Sandy @ 41st	1975					
	1976	1,144	1,171	1,166	1,245	1,207
	1977		1,184	1,191	1,219	1,206
5:00-6:00						
E. Burnside @ 21st	1975					
	1976	1,072	1,053	1,072	1,070	1,048
	1977	1,076	1,114	1,100	1,066	
N.E. Sandy @ 21st	1975					
	1976	1,144	1,183	1,170	1,183	1,176
	1977	1,076	1,114	1,100	1,066	
N.E. Weidler @ 21st	1975					
	1976		1,191	1,164	1,289	1,241
	1977	1,190	1,293	1,283	1,260	1,215
N.E. Sandy @ 41st	1975					
	1976	1,190	1,199	1,170	1,224	1,175
	1977		1,119	1,224	1,189	1,251

COUNTS EASTBOUND (BY TIME)

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMEER	DECEMBER
			708		832	767
720	689	722	743	734	740	763
768						
			734		845	
838	702	729	773	775	828	816
807						
832	870	906	975	972	1,011	1,018
855						
			840		1,081	1,134
1,022	998		967	924	988	1,036
1,057						
			1,147		1,249	1,197
1,079	1,060	1,105	1,163	1,103	1,154	1,169
1,134						
			1,140		1,213	
1,283	1,066	1,139	1,129	1,104	1,178	1,185
1,168						
1,215	1,275	1,292	1,355	1,348	1,355	1,426
1,162						
			1,055		1,300	1,307
1,244	1,175		1,224	1,119	1,185	1,287
			1,157		1,182	1,097
1,041	1,012	988	1,049	1,116	1,094	1,091
1,221						
			1,232		1,205	
1,238	1,039	1,092	1,110	1,073	1,005	1,140
1,385						
1,148	1,206	1,211	1,269	1,326	1,285	1,311
1,208						
			1,114		1,305	1,286
1,306	1,168		1,189	1,154	1,161	1,177
1,392						

TABLE B-8 BANFIELD FREEWAY

TIME	YEAR	JANUARY HOV	JANUARY ALL LANES	FEBRUARY HOV	FEBRUARY ALL LANES	MARCH HOV	MARCH ALL LANES	APRIL HOV	APRIL ALL LANES	MAY HOV	MAY ALL LANES	
6:30-7:00	1975						45.8		47.8		49.3	
	1976	48.7	47.9	50.5	46.2	54.0	49.0	56.0	49.8		50.1	
	1977	46.8		48.6		49.7		48.6		49.3		
7:00-7:30	1975						40.9		39.7		44.6	WESTBOUND
	1976	47.7	44.4	50.0	43.1	51.3	45.8	52.7	47.3	50.0	41.0	
	1977	48.4	33.7	48.4	38.7	52.7	37.3	52.9	43.0	53.0	40.6	
7:30-8:00	1975						29.3		30.0		28.5	
	1976	49.0	41.6	47.3	30.9	47.7	30.2	49.5	32.9	36.8	30.4	
	1977	44.2	26.6	49.6	30.9	44.9	28.7	51.4	27.7	49.2	32.2	
8:00-8:30	1975						26.4		42.0		44.2	
	1976	49.3	46.1	51.7	42.9	52.3	47.5	49.0	47.6	54.0	48.6	
	1977	48.7	43.0	54.5	48.4	49.3	42.0	51.3	38.6	51.7	39.3	
4:00-4:30	1975						41.6		39.4		41.8	EASTBOUND
	1976	49.5	43.8	52.3	47.8	46.1	42.8		44.0		31.0	
	1977	40.0	41.1	43.0	36.4		40.9		39.9		35.0	
4:30-5:00	1975						31.1		32.3		35.0	
	1976	48.0	38.3	48.0	41.5	37.5	38.5	48.5	39.0	32.0	29.7	
	1977	41.3	37.8	37.8	45.6	34.9	35.7	39.2	34.7	41.0	35.4	
5:00-5:30	1975						24.4		26.9		28.3	
	1976	44.5	33.0	43.0	29.6	32.0	35.3	45.5	36.8	30.5	24.1	
	1977	39.3	38.1	27.7	35.1	38.1	29.8	30.7	27.9	35.1	34.1	
6:00-6:30	1975						33.2		41.4		40.9	
	1976	41.5	43.2	44.0	34.3	51.6	43.5		47.1		38.6	
	1977		45.3		46.0		41.2		41.4		43.6	

SPEED RUNS

See Appendix A, Task A-6, pages A-39 through A-47 for procedures used to obtain numbers.

JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	ALL HOV LANES		ALL HOV LANES		ALL HOV LANES		ALL HOV LANES		ALL HOV LANES		ALL HOV LANES		ALL HOV LANES
	44.4		49.4		47.1		46.7		42.5		47.0	50.8	46.5
	49.6		49.3		49.9		41.3		42.9		45.4		45.2
49.2													
	40.9		43.8		44.9		38.7		29.8		34.7	43.8	38.6
52.1	41.9	53.1	37.2	51.8	44.2	50.4	37.8	48.7	31.9	48.1	35.1	49.2	38.8
52.7	42.0												
	33.1		34.2		37.6		26.0		24.4		39.6	47.1	38.2
50.3	37.5	51.1	36.2	50.1	36.7	42.9	27.2	48.6	33.9	52.1	27.9	50.3	32.3
50.8	40.1												
	41.2		46.6		45.6		39.0		41.2		41.5	51.4	48.9
53.3	44.5	54.3	50.0	53.3	48.7	52.7	38.4	55.0	48.6	53.7	46.8	53.0	46.0
52.7	47.3												
	34.6		39.8		29.9		31.7		28.8		22.4	49.0	41.8
34.3	26.8	42.0	37.7	34.6	35.4	43.5	42.8	30.0	36.5	41.0	33.6	31.0	34.3
36.5	30.6												
	25.4		34.6		25.1		31.3		26.3		18.3	44.7	42.2
31.4	29.9	38.8	39.4	30.0	30.4	45.3	41.9	38.1	31.5	35.6	27.9	30.0	26.6
30.0	29.7												
	24.3		26.1		26.5		33.7		29.5		19.0	44.8	43.5
30.3	28.9	43.3	40.8	32.8	27.3	41.8	38.5	32.8	28.2	26.2	25.2	30.3	27.6
	35.2												
	39.5		43.8		39.4		37.8		33.2		23.2	49.0	44.9
	46.9		47.7		42.1		47.8		38.9		39.0		39.9
	35.2												

TABLE B-9 ARTERIAL

WESTBOUND

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
7:00-7:30 N.E. Sandy Blvd. - 47th to Burnside (12th)						
Speed Runs	1975					
" "	1976	24.5	19.5	20.5	21.5	21.0
" "	1977	21.0	21.5	23.0	24.0	24.0
7:00-7:30 N.E. Broadway 33rd to 12th						
Speed Runs	1975					
" "	1976	29.7	31.3	30.7	29.7	29.0
" "	1977	30.3	27.3	29.7	28.5	30.0
7:00-7:30 East Burnside 32nd to 12th (Sandy)						
Speed Runs	1975					
" "	1976	16.0	21.0	15.7	15.7	17.3
" "	1977	18.7	15.9	22.0	16.1	15.4
7:30-8:00 N.E. Sandy Blvd. - 47th to Burnside (12th)						
Speed Runs	1975					
" "	1976	17.5	17.0	17.0	16.0	19.0
" "	1977	21.0	20.5	19.5	17.0	16.0
7:30-8:00 N.E. Broadway 33rd to 12th						
Speed Runs	1975					
" "	1976	24.7	28.0	26.3	29.0	28.7
" "	1977	29.0	27.0	27.7	26.3	27.5
7:30-8:00 East Burnside 32nd to 12th (Sandy)						
Speed Runs	1975					
" "	1976	13.9	15.8	14.6	18.6	12.7
" "	1977	29.0	27.0	27.7	26.3	27.5

STREET SPEED RUNS

See Appendix A, Task A-7, pages A-47 through A-58 for procedures used to obtain speed numbers.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
					18.0	22.5
19.0	20.0	23.5	20.5	24.5	16.0	24.5
19.0						
					29.6	29.3
29.3	30.0	29.0	29.7	30.6	29.0	29.3
27.5						
					15.2	18.4
17.4	19.1	15.8	17.2	20.0	21.1	18.3
19.0						

					15.5	20.0
17.5	16.0	19.5	19.5	17.0	17.0	18.0
19.0						
					28.2	30.0
29.7	27.3	28.0	26.3	29.3	28.7	26.3
28.3						
					14.5	17.3
11.2	17.0	15.4	17.3	20.2	15.1	17.3
11.6						

ARTERIAL STREET SPEED RUNS cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
8:00-8:30 N.E. Sandy Blvd. - 47th to Burnside (12th)						
Speed Runs	1975					
" "	1976	21.5	19.0	20.5	19.5	25.5
" "	1977	23.5	26.0	24.0	22.5	22.5
8:00-8:30 N.E. Broadway 33rd to 12th						
Speed Runs	1975					
" "	1976	29.0	30.7	29.7	29.7	29.5
" "	1977	29.0	27.5	28.0	28.7	28.2
8:00-8:30 East Burnside 32nd to 12th (Sandy)						
Speed Runs	1975					
" "	1976	16.0	20.1	17.0	20.4	18.3
" "	1977	17.0	20.5	15.8	18.2	18.5

EASTBOUND

4:00-4:30 N.E Sandy Blvd. - Burnside (12th) to 47th Avenue						
Speed Runs	1975					
" "	1976	22.5	22.0	22.0	20.1	20.5
" "	1977	18.5	20.5	21.5	22.5	23.0
4:00-4:30 N.E. Broadway 12th - 33rd						
Speed Runs	1975					
" "	1976	22.7	22.3	26.0	24.3	20.7
" "	1977	23.0	21.5	18.7	18.3	21.5
4:00-4:30 East Burnside - 12th (Sandy) to 32nd						
Speed Runs	1975					
" "	1976	23.7	23.4	23.0	22.8	23.8
" "	1977	25.4	21.9	22.0	23.1	19.0

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
20.5 22.5	20.0	24.0	21.5	19.0	23.0 18.5	17.0 22.0
29.7 29.5	28.0	28.3	28.7	29.3	28.3 29.7	30.0 30.0
14.3 15.8	15.7	16.2	17.8	20.6	14.8 17.8	20.9 12.4
17.0 18.0	20.0	17.5	17.0	22.0	21.0 21.0	23.0 18.5
26.0 23.0	20.7	16.7	18.3	21.3	20.7 22.3	19.0 23.3
23.6 22.0	22.4	22.9	25.5	19.2	21.9 21.2	22.4 20.4

ARTERIAL STREET SPEED RUNS cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
4:30-5:00						
N.E. Sandy Blvd. - Burnside						
(12th) to 47th Avenue						
Speed Runs	1975					
" "	1976	20.0	18.5	20.0	17.0	18.0
" "	1977	16.0	15.5	19.5	18.5	14.0
4:30-5:00						
N. E. Broadway						
12th - 33rd						
Speed Runs	1975					
" "	1976	20.0	22.0	23.0	15.3	19.3
" "	1977	21.0	18.3	*16.0	22.0	22.5
4:30-5:00						
East Burnside - 12th						
(Sandy) to 32nd						
Speed Runs	1975					
" "	1976	20.8	23.7	29.3	16.6	22.4
" "	1977	20.8	18.9	20.5	23.9	22.0
5:00-5:30						
N.E. Sandy Blvd. - Burnside						
(12th) to 47th Avenue						
Speed Runs	1975					
" "	1976	18.0	19.5	17.0	18.0	18.0
" "	1977	28.4	11.0	17.0	15.0	16.5
5:00-5:30						
N.E. Broadway						
12th - 33rd						
Speed Runs	1975					
" "	1976	17.7	24.0	22.0	14.7	15.5
" "	1977	20.7	20.7	*12.0	20.7	14.0
5:00-5:30						
East Burnside - 12th						
(Sandy) to 32nd						
Speed Runs	1975					
" "	1976	19.6	20.2	20.4	14.2	23.1
" "	1977	18.4	18.1	18.9	11.9	18.6

* Accident

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
17.0 20.0	20.0	17.0	18.0	19.0	18.0 20.5	18.0 20.5
19.5 21.0	19.0	19.0	21.0	20.7	16.3 20.6	13.5 17.3
20.0 23.8	20.3	18.6	21.3	25.2	22.0 21.0	23.5 22.2
15.0 12.5	20.5	22.5	20.0	18.5	16.0 17.5	18.5 15.0
14.3 15.5	15.0	17.3	16.0	15.3	13.0 16.0	15.7 14.0
18.6 21.5	20.8	23.1	19.4	24.6	21.3 18.2	18.2 20.2

ARTERIAL STREETS SPEED RUNS cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
5:30-6:00 N.E. Sandy Blvd. - Burnside (12th) to 47th Avenue						
Speed Runs	1975					
" "	1976	21.0	24.0	22.0	26.0	25.0
" "	1977	24.5	22.5	24.0	22.0	22.5
5:30-6:00 N.E. Broadway 12th - 33rd						
Speed Runs	1975					
" "	1976	24.0	24.0	24.7	21.5	24.3
" "	1977	23.7	22.5	22.0	24.5	22.0
5:30-6:00 East Burnside - 12th (Sandy) to 32nd						
Speed Runs	1975					
" "	1976	26.1	23.5	22.6	25.1	25.0
" "	1977	27.3	23.8	25.4	21.5	25.6

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
19.0 29.0	21.5	19.0	22.0	23.0	20.5 22.0	24.5 21.0
23.3 22.0	23.0	24.0	20.0	25.3	16.0 23.0	21.3 22.7
23.2 25.3	25.9	23.8	26.1	21.1	23.3 23.2	24.2 22.6

TABLE B-10 BANFIELD FREEWAY

TIME	YEAR	JANUARY HOV	JANUARY ALL LANES	FEBRUARY HOV	FEBRUARY ALL LANES	MARCH HOV	MARCH ALL LANES	APRIL HOV	APRIL ALL LANES	MAY HOV	MAY ALL LANES
AM (WESTBOUND)											
6:30-7:00	1975										
	1976					2.29	1.20	2.11	1.18	2.47	1.20
	1977					2.33	1.20	2.10	1.21	2.12	1.17
7:00-7:30	1975										
	1976			2.51	1.26	2.48	1.26		1.21		1.24
	1977			2.67	1.21	2.77	1.28	2.31	1.25	2.70	1.25
								2.78	1.26	2.83	1.25
7:30-8:00	1975										
	1976	2.56	1.27	2.42	1.26	2.29	1.26		1.23		1.24
	1977	2.59	1.27	2.73	1.22	2.72	1.26	2.19	1.26	2.62	1.26
								2.76	1.27	2.88	1.28
8:00-8:30	1975										
	1976	1.93	1.24	2.35	1.23	2.13	1.21	2.34	1.23	2.65	1.25
	1977	2.49		2.66		2.73		2.77		2.83	
PM (EASTBOUND)											
4:00-4:30	1975										
	1976	2.64	1.33	2.69	1.36	2.65	1.31	2.51	1.29	2.51	1.29
	1977	2.45	1.31	2.68	1.30	2.63	1.33	2.63	1.31	2.56	1.29
4:30-5:00	1975										
	1976		1.30	2.71	1.32	2.62	1.27		1.26		1.31
	1977		1.32	2.78	1.31	2.78	1.37	2.38	1.26	2.65	1.27
								2.85	1.33	2.65	1.32
5:00-5:30	1975										
	1976			2.66	1.36	2.68	1.32		1.27		1.30
	1977			2.78	1.32	2.79	1.36	2.54	1.30	2.70	1.33
								2.85	1.33	2.76	1.32
5:30-6:00	1975										
	1976					2.58	1.28	2.27	1.27	2.54	1.25
	1977					2.53	1.30	2.56	1.30	2.55	1.26

OCCUPANCY RATES

See Appendix A, Task A-4, pages A-18 through A-26 for procedures used to obtain occupancy rates.

JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES
2.42	1.20	2.55	1.20	2.87	1.20	2.50	1.19						
2.23	1.23												
	1.21		1.22		1.21		1.22				1.23		
2.73	1.28	2.75	1.27	2.87	1.25	2.77	1.25	2.77	1.24	2.74	1.27		
2.84	1.26												
	1.24		1.28		1.24		1.19		1.20		1.20		1.22
2.71	1.29	2.73	1.28	2.83	1.27	1.16	1.24	2.58	1.25	2.75	1.27	2.68	1.23
2.75	1.23												
									1.22		1.21		1.20
2.60	1.24	2.78	1.27	2.88	1.26	2.46	1.21	2.43	1.20	2.67	1.23	2.71	1.22
2.76	1.23												
											1.31		1.28
2.69	1.36	2.64	1.37	2.66	1.39	2.64	1.34	2.57	1.29	2.63	1.31	2.39	1.29
2.63	1.32												
	1.32		1.41		1.35		1.28		1.27		1.28		
2.77	1.34	2.70	1.35	2.73	1.38	2.81	1.34	2.66	1.29	2.68	1.25		
2.77	1.35												
	1.33		1.37		1.41		1.30		1.27				
2.79	1.37	2.72	1.35	2.77	1.44	2.80	1.36	2.85	1.35				
2.85													
2.64	1.37	2.71	1.38	2.65	1.41	2.65	1.34	2.56	1.32				
2.65	1.36												

TABLE B-11 SUNSET FREEWAY

TIME	YEAR	JANUARY ALL LANES	FEBRUARY ALL LANES	MARCH ALL LANES	APRIL ALL LANES	MAY ALL LANES
AM (EASTBOUND)						
6:30-7:00	1976			1.18	1.19	1.16
				1.20	1.15	1.17
7:00-7:30	1976			1.19	1.19	1.20
			1.21	1.21	1.20	1.16
7:30-8:00	1976			1.22	1.22	1.21
	1977	1.23	1.21	1.19	1.21	1.19
8:00-8:30	1976			1.18	1.20	1.16
	1977	1.20	1.20	1.19	1.19	1.20
PM (WESTBOUND)						
4:00-4:30	1976			1.23	1.25	1.21
	1977	1.22	1.27	1.20	1.26	1.25
4:30-5:00	1976			1.24	1.21	1.23
	1977	1.23	1.24	1.19	1.24	1.23
5:00-5:30				1.25	1.27	1.23
			1.27	1.26	1.25	1.23
5:30-6:00	1976			1.27	1.25	1.25
					1.27	1.26

OCCUPANCY COUNTS

See Appendix A, Task A-5, pages A-29 through A-39 for procedures used to obtain occupancy rates.

JUNE ALL LANES	JULY ALL LANES	AUGUST ALL LANES	SEPTEMBER ALL LANES	OCTOBER ALL LANES	NOVEMBER ALL LANES	DECEMBER ALL LANES
1.24 1.24	1.33	1.36	1.27	1.29	1.25	1.20
1.26 1.26	1.27	1.28	1.28	1.23	1.19	
1.28 1.26	1.30	1.28	1.30	1.25		
1.26 1.26	1.30	1.30	1.26	1.25		
1.20 1.17	1.20	1.17	1.15			
1.20 1.18	1.22	1.21	1.21	1.18	1.18	
1.20 1.20	1.25	1.21	1.22	1.27	1.22	1.19
1.20 1.17	1.20	1.21	1.19	1.16	1.18	1.17

TABLE B-12 MINNESOTA FREEWAY

TIME	YEAR	JANUARY ALL LANES	FEBRUARY ALL LANES	MARCH ALL LANES	APRIL ALL LANES	MAY ALL LANES
AM (SOUTHBOUND)						
6:30-7:00	1976			1.18	1.20	1.17
	1977	1.36	1.34	1.34	1.36	1.37
7:00-7:30	1976			1.19	1.23	1.21
	1977		1.19	1.21	1.20	1.21
7:30-8:00	1976			1.21	1.23	1.22
	1977	1.21	1.21	1.24	1.20	1.21
8:00-8:30	1976			1.21	1.26	1.27
	1977	1.21	1.21	1.25	1.19	1.23
PM (NORTHBOUND)						
4:00-4:30	1976			1.33	1.41	1.34
	1977	1.36	1.34	1.34	1.36	1.37
4:30-5:00	1976			1.37	1.45	1.28
	1977	1.30	1.35	1.32	1.39	1.33
5:00-5:30	1976			1.42	1.45	1.42
	1977		1.35	1.30	1.40	1.33
5:30-6:00	1976			1.36	1.47	1.48
	1977			1.40	1.42	1.39

(I-5) OCCUPANCY COUNTS

See Appendix A, page A-33 for special note on procedures used to obtain occupancy rates.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
ALL LANES	ALL LANES	ALL LANES	ALL LANES	ALL LANES	ALL LANES	ALL LANES
1.23 1.19	1.21	1.19	1.23	1.17	1.24	
1.23 1.20	1.21	1.19	1.23	1.17	1.24	
1.22 1.20	1.22	1.21	1.22	1.19	1.23	1.18
1.22 1.20	1.25	1.21	1.23	1.19	1.23	1.17
1.45 1.44	1.43	1.49	1.41	1.30	1.36	1.31
1.41 1.40	1.46	1.59	1.43	1.38	1.32	
1.44 1.42	1.52	1.58	1.45	1.40		
1.53 1.52	1.46	1.62	1.47	1.45		

TABLE B-13 BANFIELD AND ARTERIAL

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
6:30-7:00						
Banfield	1975					
	1976	28	30	28	30	31
	1977	38	34	40	52	42
Sandy	1975					
	1976	4	3	6	8	3
	1977	3	3	6	2	4
Burnside	1975					
	1976	5	4	4	3	9
	1977	8	6	5	5	4
7:00-7:30						
Banfield	1975					
	1976	33	28	27	29	29
	1977	26	26	34	38	34
Sandy	1975					
	1976	10	7	5	15	6
	1977	7	8	11	7	4
Burnside	1975					
	1976	17	22	13	9	10
	1977	12	13	12	15	13
7:30-8:00						
Banfield	1975					
	1976	37	43	33	37	56
	1977	45	42	48	47	53
Sandy	1975					
	1976	16	9	9	16	16
	1977	13	16	16	8	19
Burnside	1975					
	1976	8	10	7	11	11
	1977	14	9	7	9	13
8:00-8:30						
Banfield	1975					
	1976	59	62	62	76	58
	1977	77	76	66	64	80
Sandy	1975					
	1976	22	22	21	12	27
	1977	24	24	29	30	23
Burnside	1975					
	1976	11	10	11	15	15
	1977	14	25	17	6	13

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STREETS TRUCK COUNTS WESTBOUND

See Appendix A, Task A-8, pages A-58 through A-62 for procedures.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
41 41	42	36	46	33	27 34	24 30
4 7	7	7	5	6	6 3	3 4
7 6	7	2	11	5	5 9	7 5
41 39	38	33	36	30	34 38	39 30
10 17	14	13	13	9	8 9	5 7
13 11	13	11	19	12	20 11	9 8
50	55	50	56	45	46 53	35 42
13 33	20	15	14	15	13 21	10 9
13 11	13	11	19	12	20 11	9 8
67 76	59	58	75	64	62 81	58 62
32 29	16	23	18	19	20 24	15 29
14 15	11	13	18	16	16 16	21 14

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TABLE B-14 BANFIELD AND ARTERIAL

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
4:00-4:30						
Banfield	1975					
	1976	51	51	51	58	67
	1977	59		56	71	69
Sandy	1975					
	1976	22	17	25		25
	1977	26	30	22	19	24
Burnside	1975					
	1976	14	0	8	8	23
	1977	9	9	10	13	11
4:30-5:00						
Banfield	1975					
	1976	31	39	40	36	35
	1977	39		40	47	39
Sandy	1975					
	1976	4	13	18		14
	1977	10	13	14	13	14
Burnside	1975					
	1976	8	4	12	7	10
	1977	7	6	7	7	6
5:00-5:30						
Banfield	1975					
	1976	37	43	33	37	56
	1977	45	42	48	47	53
Sandy	1975					
	1976	16	9	9	16	16
	1977	13	16	16	8	19
Burnside	1975					
	1976	8	10	7	11	11
	1977	14	9	7	9	13
5:30-6:00						
Banfield	1975					
	1976	20	22	31	35	43
	1977	34		30	44	38
Sandy	1975					
	1976	4	5	7		7
	1977	1	8	12	6	1
Burnside	1975					
	1976	11	10	11	15	15
	1977	14	25	17	6	13
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STREETS TRUCK COUNTS EASTBOUND

See Appendix A, Task A-8, pages A-58 through A-62.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
					56	50
59	58	49	54	58	62	49
56						
					23	33
25	30	21	13	20	26	29
30						
					12	11
10	9	5	9	10	19	15
					38	31
48	39	50	44	50	55	31
47						
					17	16
14	21	19	17	23	21	18
20						
					12	17
12	8	8	6	6	8	13
14						
					35	29
38	36	38	42	34	34	22
38						
					13	14
8	7	15	15	13	14	12
13						
					9	6
10	8	7	9	4	5	11
17						
					23	33
40	33	41	57	38	37	24
33						
					8	5
6	12	7	9	16	7	9
10						
					5	5
6	7	3	5	1	11	5
7						

APPENDIX C

BANFIELD MONITORING TRAFFIC FLOW DATA GRAPHIC PRESENTATION

Appendix A described the techniques used to gather the data in the Banfield HOV Lane Monitoring Program. Appendix B summarized the information gathered and the figures that were used to arrive at the conclusions in the body of this report. Appendix C shows the information presented in Appendix B in graphic form for visual comparison of the trends developed on various aspects.

PAGE	DESCRIPTION
147	Banfield & Arterial Average Weekday Totals. See Appendix A, Task A-1, page A-1, for procedures used.
148	Banfield & Arterial Peak Hour Volumes. See Appendix A, Task A-2, page A-11 for procedures used.
149	Banfield & Arterial Peak Hour Vehicles and Persons. See Appendix A, Task A-3, page A-16, for procedures used.
150	Banfield & Sunset Change in Peak Hour Vehicle Occupancy Rates. See Appendix A, Task A-4, page A-18 and Task A-5, page A-23, for procedures used.
151	Banfield Change in Peak Hour HOV Lane Violators. See Appendix A, Task A-10, page A-64, for procedures used.
152	Banfield Peak Hour Average Speeds. See Appendix A, Task A-6, page A-39, for procedures used.
153	Banfield & Arterial Change in Peak Hour Truck Volumes. See Appendix A, Task A-2, page A-11 and Task A-8, page A-58, for procedures used.
154	Change in Area Gasoline Prices. See Appendix A, Task A-9, page A-62 for procedures used.
155	Bus Patronage Compared to Transit Fares. See Appendix A, Task B-1, page A-67, for procedures used.
156	Peak Hour Lane Usage by Carpool Vehicles. See Appendix A, Task A-11, page A-65, for procedures used.
157	Parking Rates in CBD. See Appendix A, Task B-3, page A-69, for procedures used.
158	Accident Rate on the Banfield. See Appendix A, Task C-1, page A-69, for procedures used.
159	Recorded Accidents per Month on the Banfield. Same as above.
160	Average Number of Vehicles per Accident on the Banfield. Same as above.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

AVERAGE WEEKDAY TOTALS
- Banfield Westbound AWD
- Banfield Eastbound AWD
- Arterial Westbound AWD
- Arterial Eastbound AWD

HOV Lanes Opened December 15, 1975

VEHICLES PER DAY

60,000
50,000
40,000
30,000

Banfield W.B.
Banfield E.B.
Arterials W.B.
Arterials E.B.

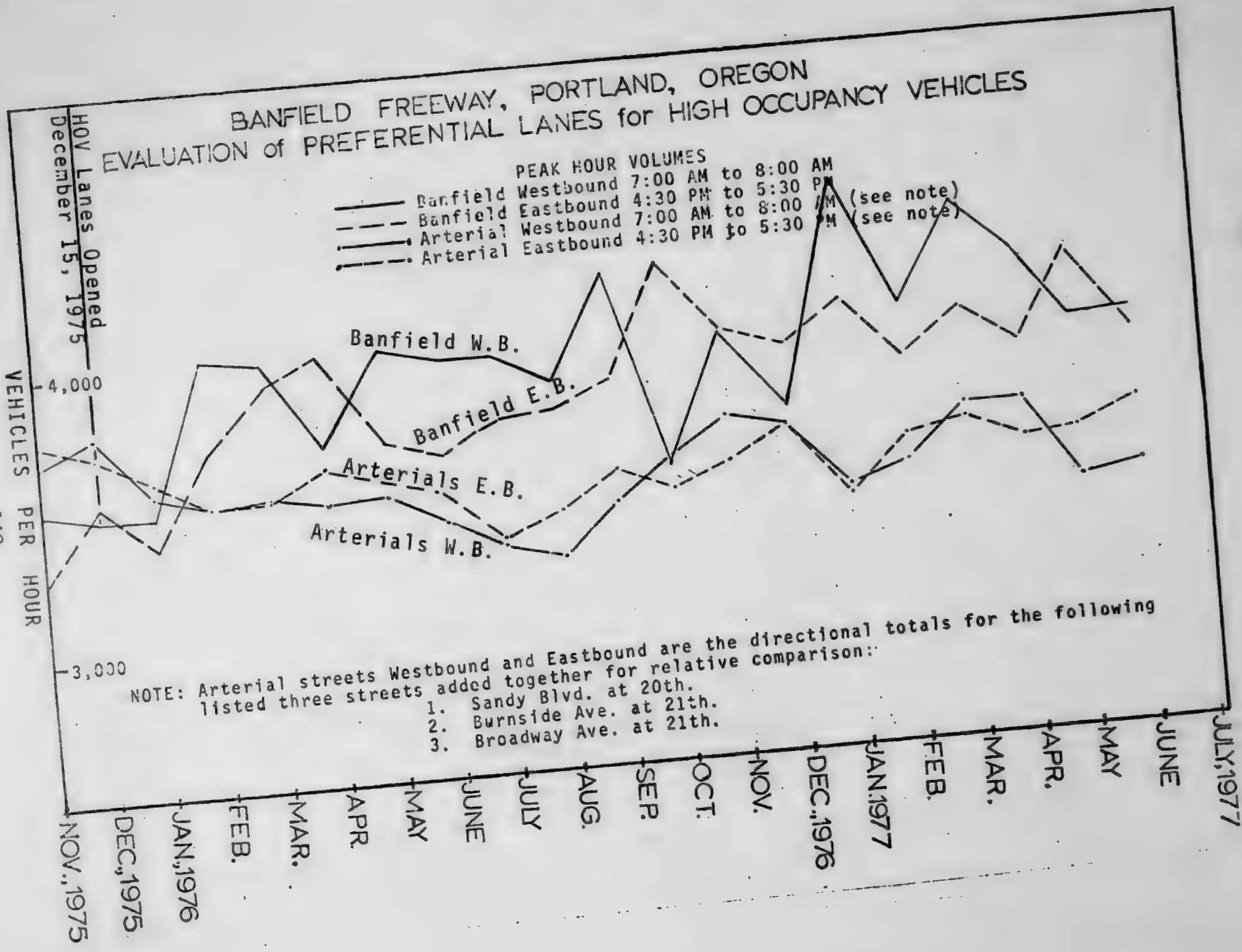
NOTE: Arterial streets Westbound and Eastbound are the directional totals for the following listed three streets added together for relative comparison:
1. Sandy Blvd. at 20th.
2. Burnside Ave. at 21st.
3. Broadway Ave. at 21st.

*See Note

*NOTE: Estimated Average Weekday Total Used Due To Lack of Complete Records for this Period.

NOV.,1975 DEC.,1975 JAN.,1976 FEB. MAR. APR. MAY JUNE JULY AUG. SEP. OCT. NOV. DEC.,1976 JAN.1977 FEB. MAR. APR. MAY JUNE JULY,1977

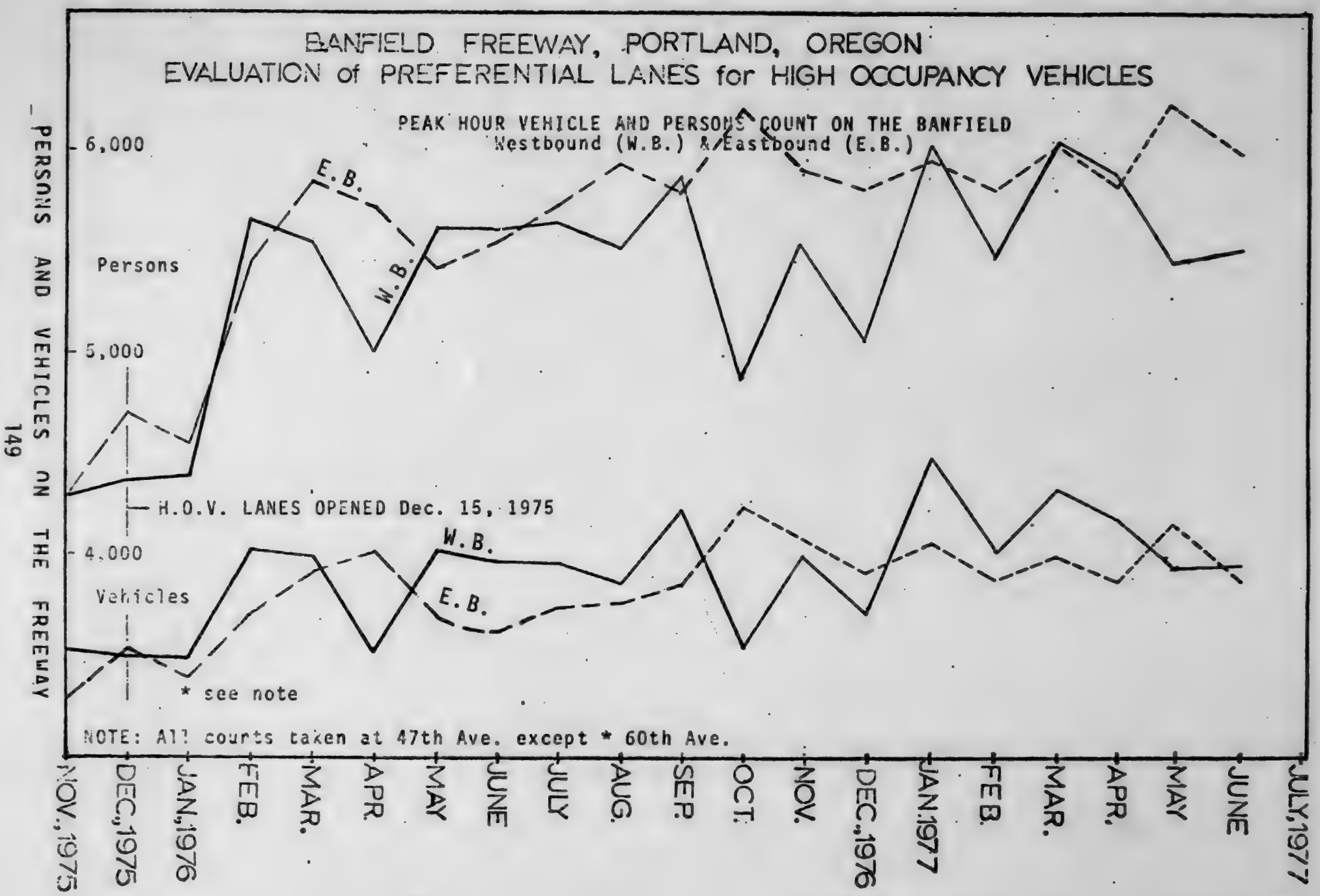
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES



NOTE: Arterial streets Westbound and Eastbound are the directional totals for the following listed three streets added together for relative comparison:

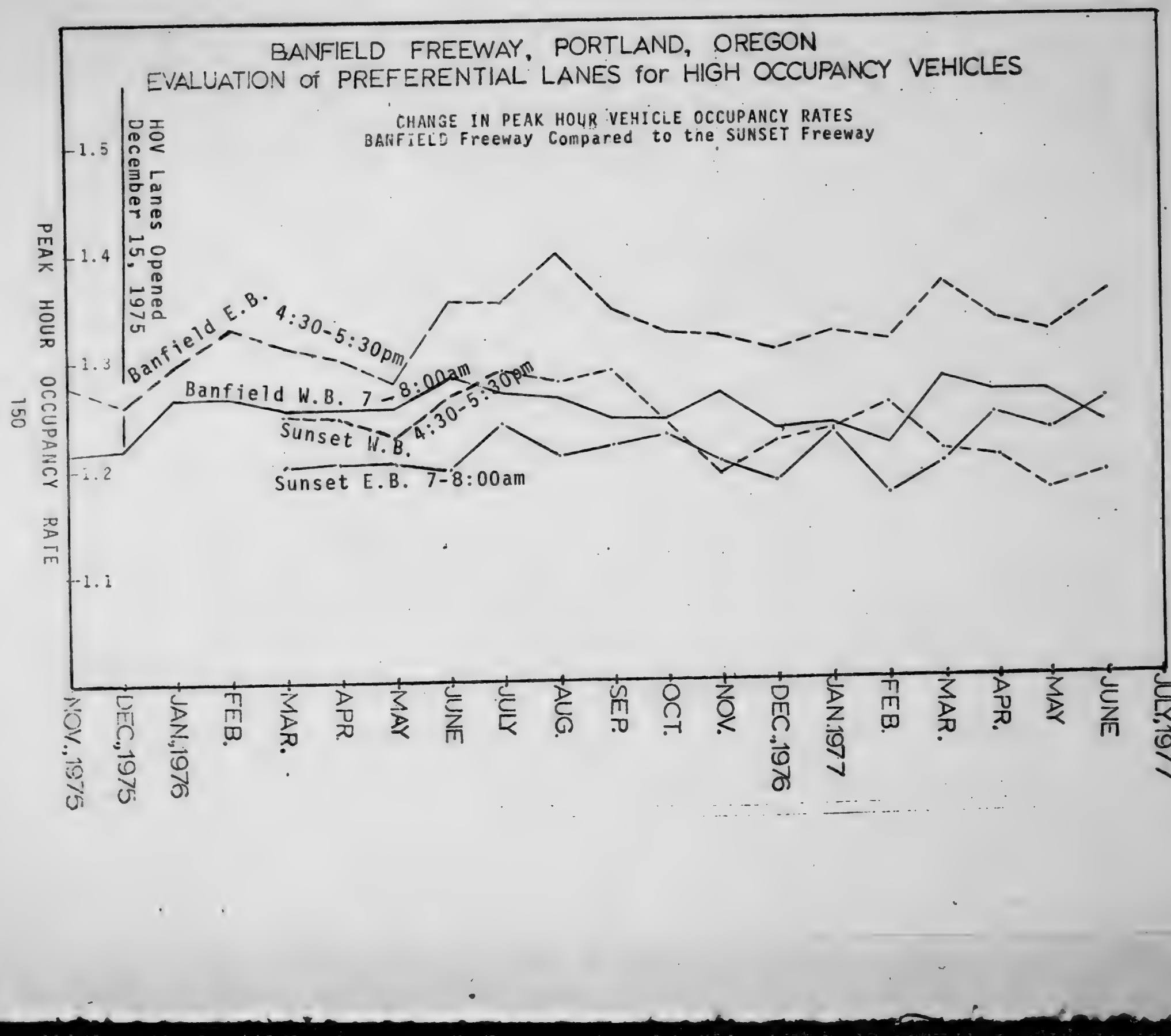
1. Sandy Blvd. at 20th.
2. Burnside Ave. at 21th.
3. Broadway Ave. at 21th.

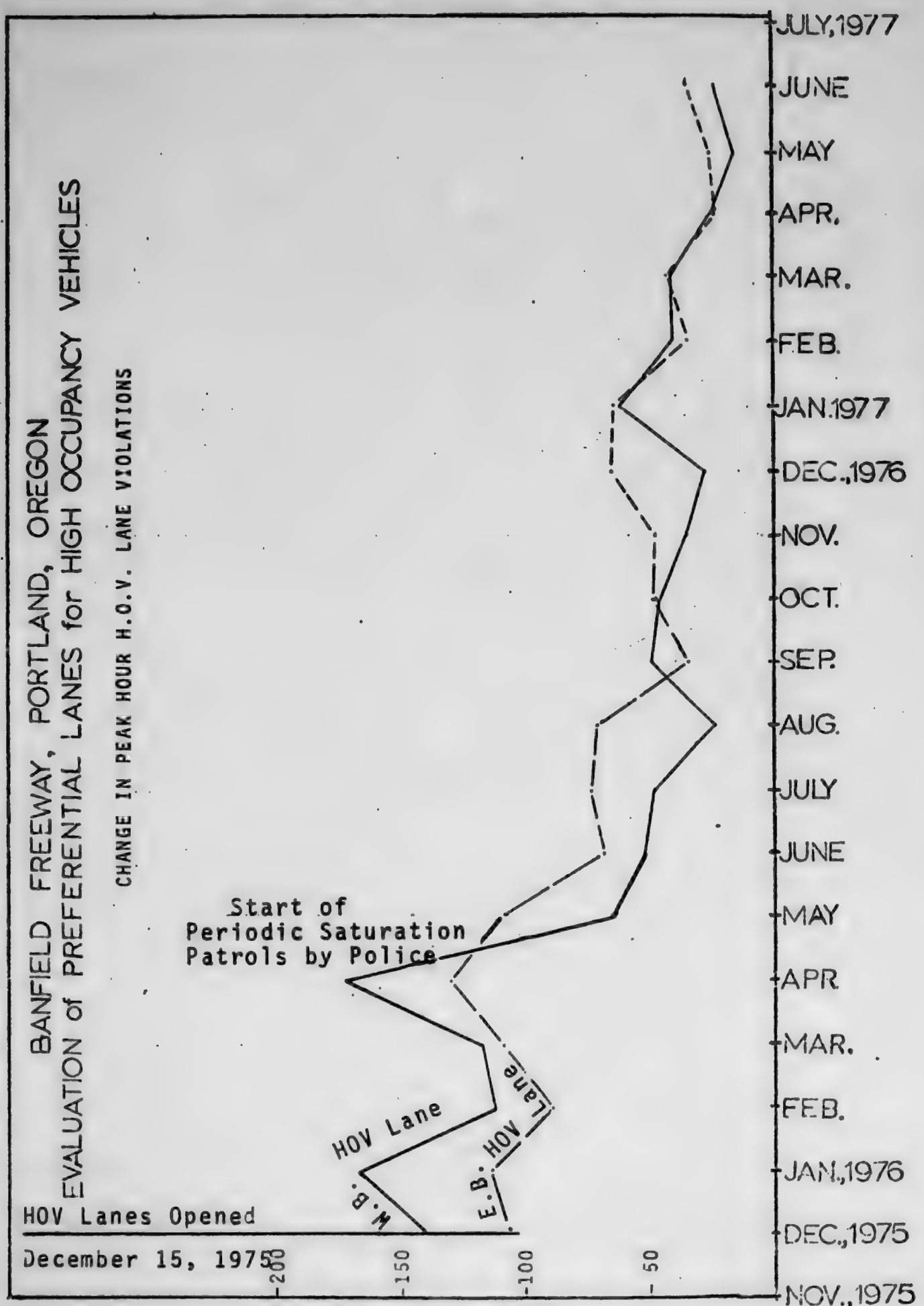
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES



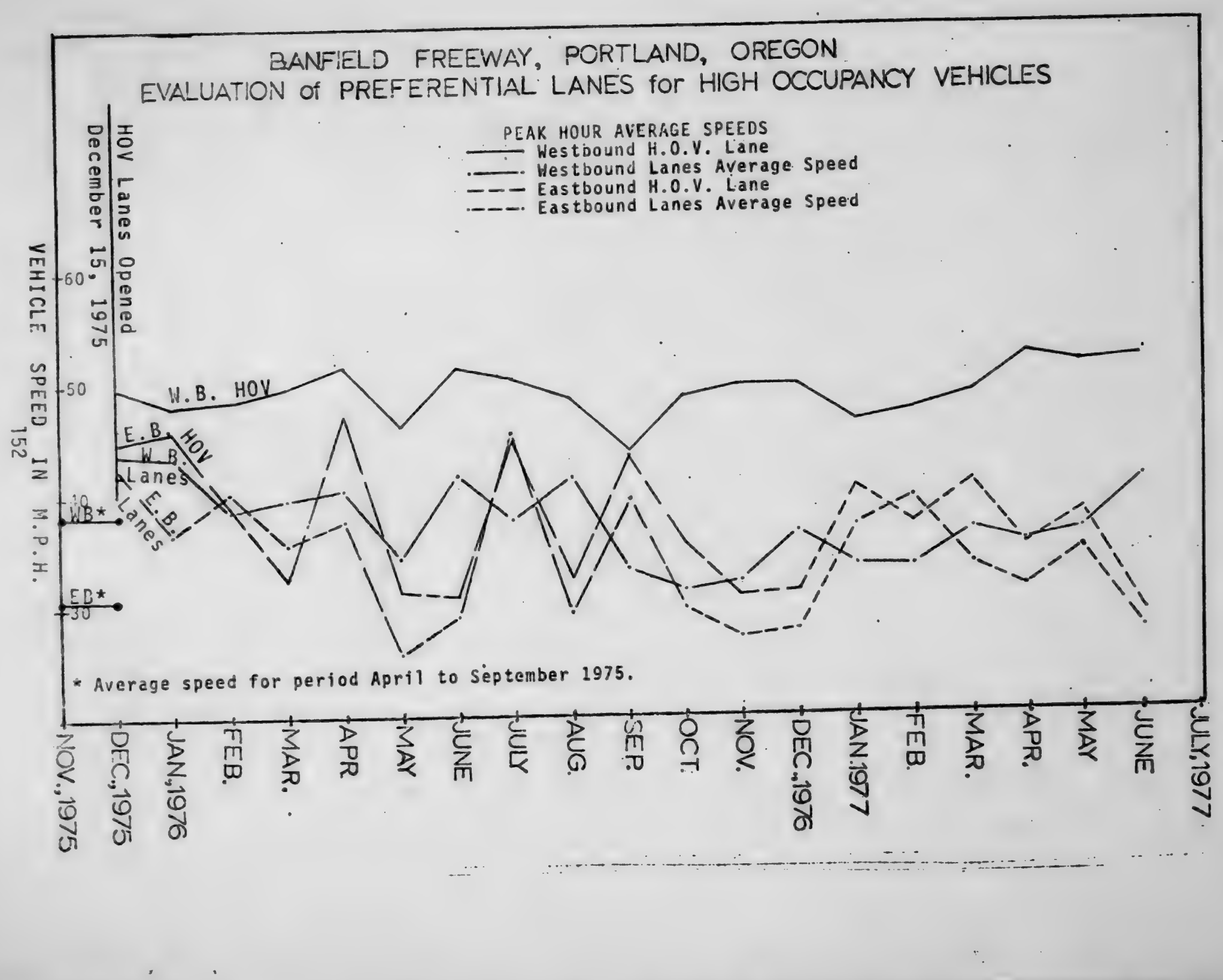
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

CHANGE IN PEAK HOUR VEHICLE OCCUPANCY RATES
BANFIELD Freeway Compared to the SUNSET Freeway

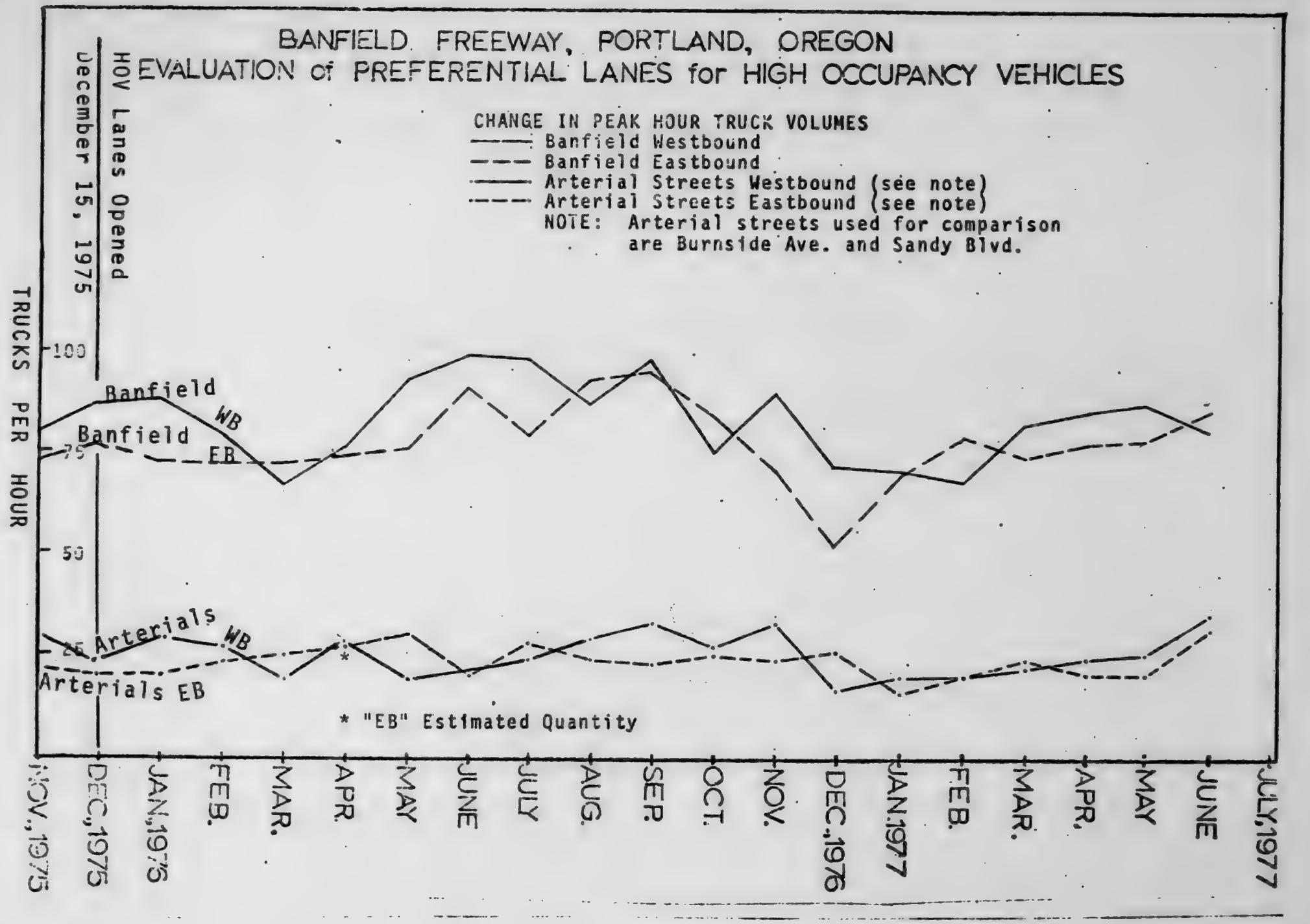



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
CHANGE IN PEAK HOUR H.O.V. LANE VIOLATIONS
JULY, 1977
JUNE
MAY
APR.
MAR.
FEB.
JAN. 1977
DEC., 1976
NOV.
OCT.
SEP.
AUG.
JULY
JUNE
MAY
APR
MAR.
FEB.
JAN., 1976
DEC., 1975
NOV., 1975
Start of Periodic Saturation Patrols by Police
HOV Lane
E.B. HOV Lane
W.B.
HOV Lanes Opened
December 15, 1975
200
150
100
50
VIOLATORS PER HOUR

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

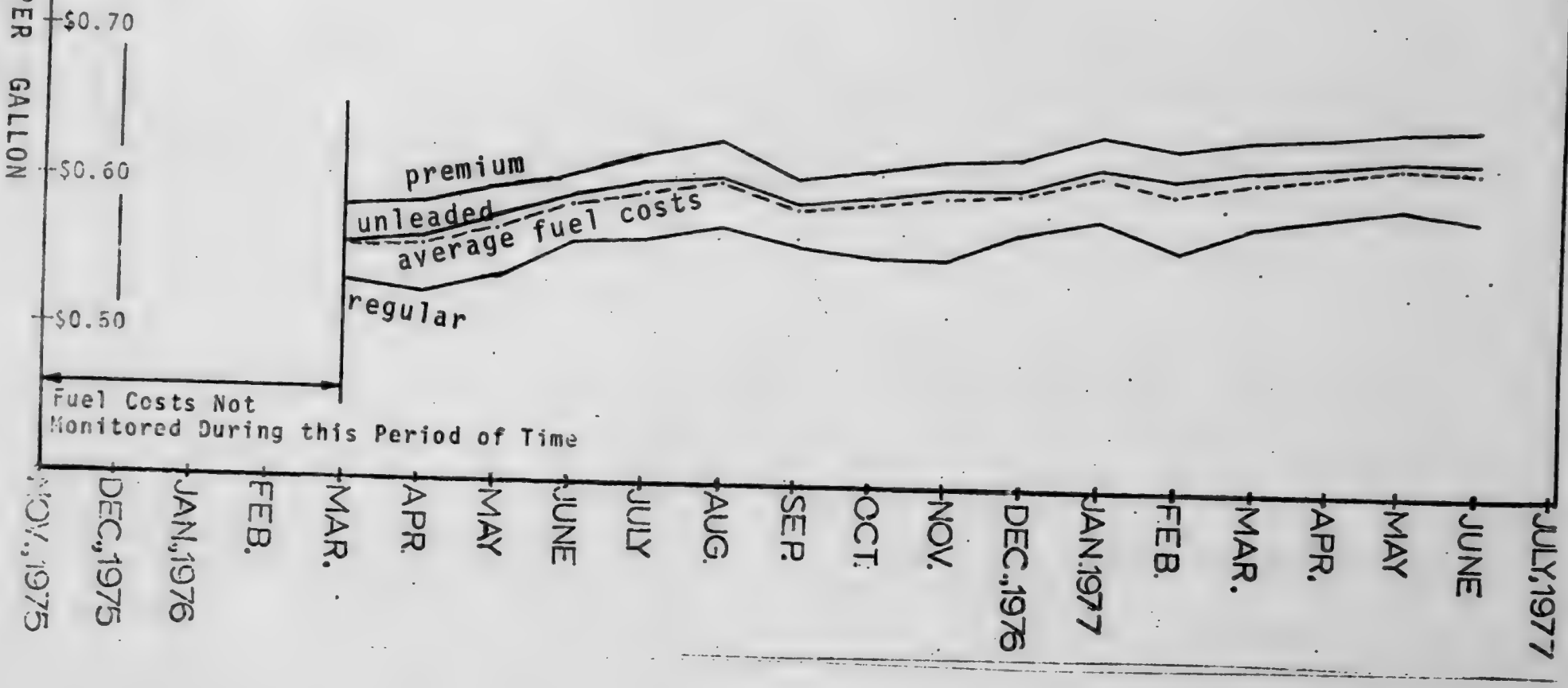


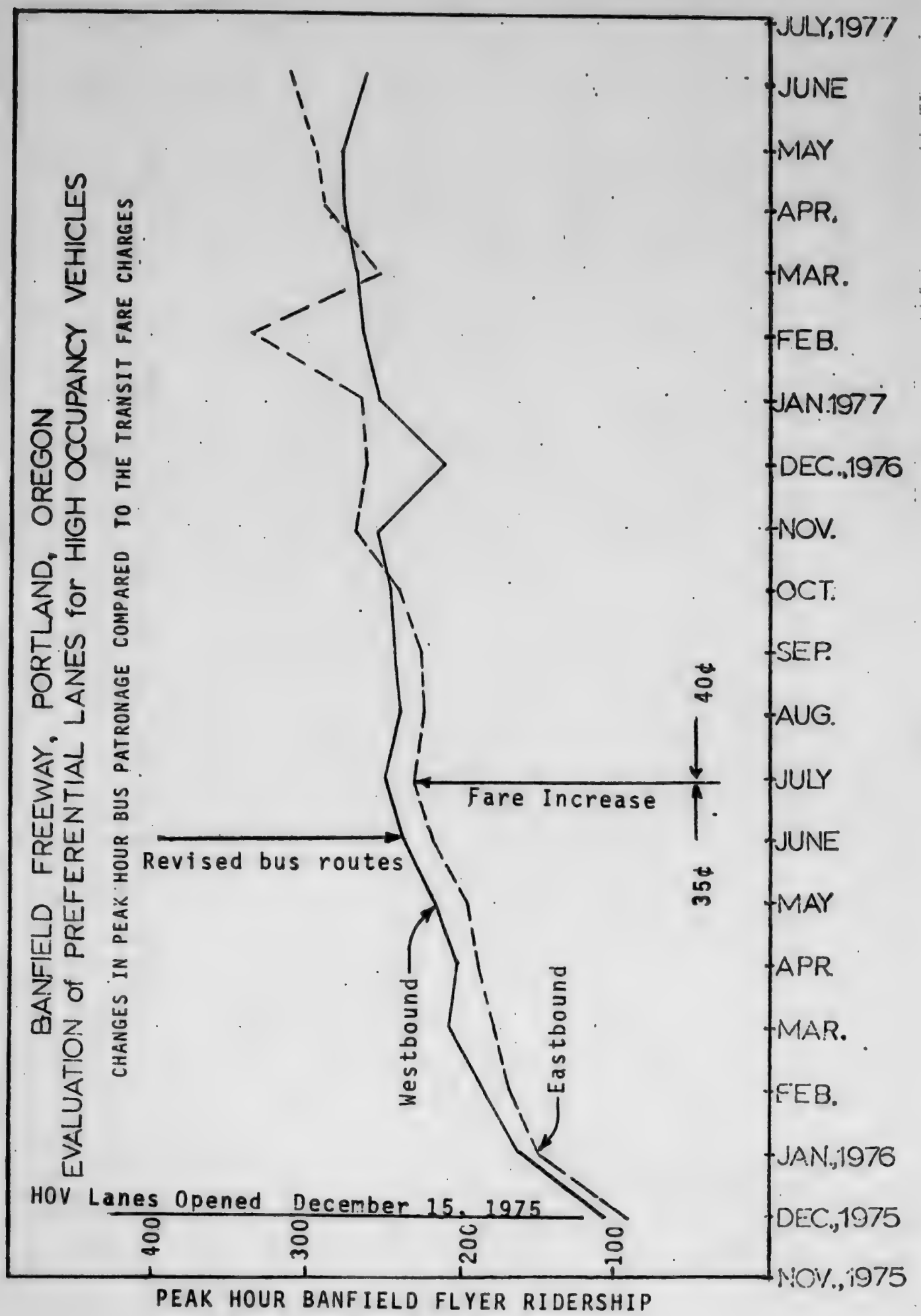
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

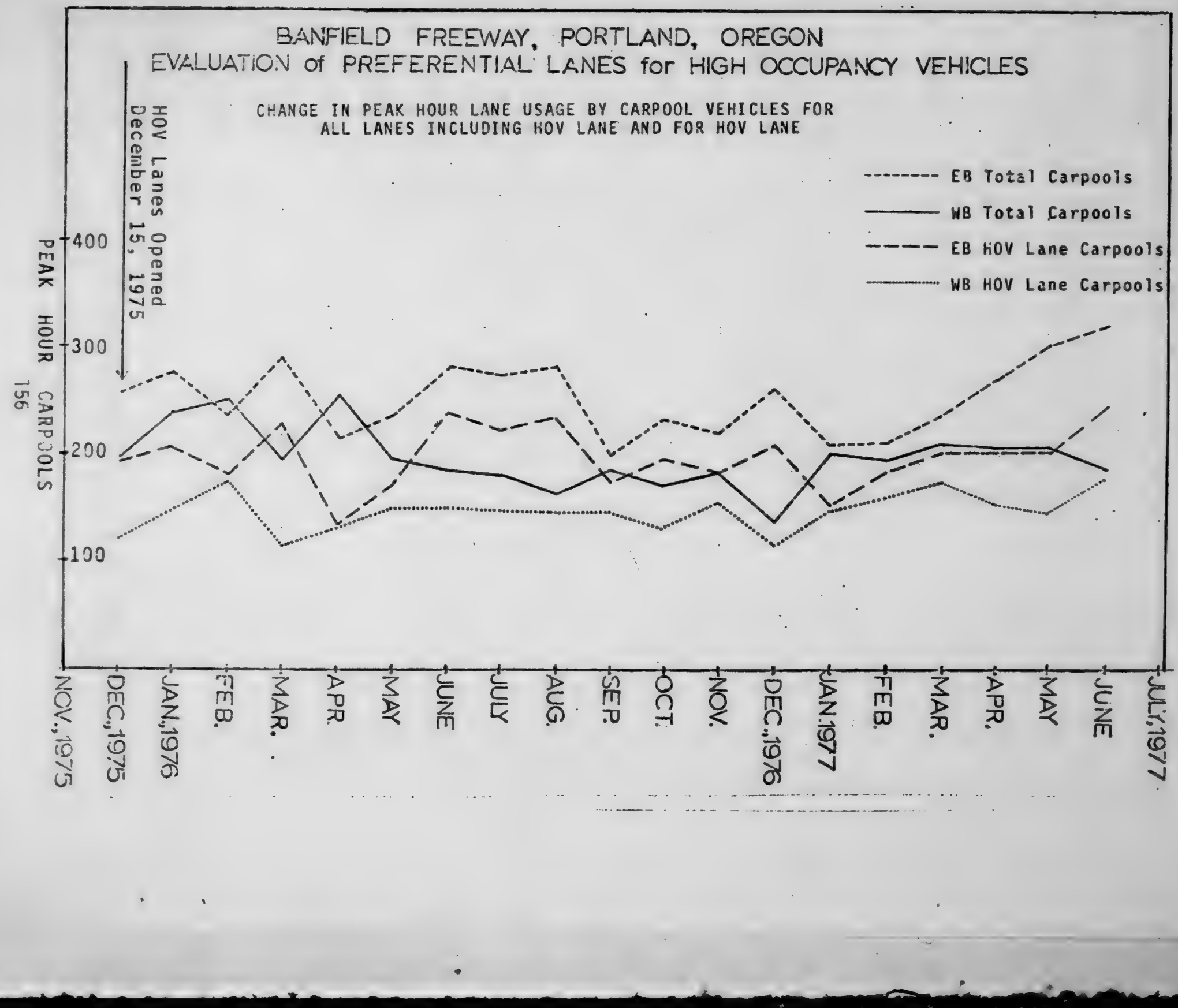
CHANGE IN AREA GASOLINE PRICES
Average gasoline prices are determined by averaging prices of four major service stations of logistic locations throughout the Banfield Corridor Area.




BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
CHANGES IN PEAK HOUR BUS PATRONAGE COMPARED TO THE TRANSIT FARE CHARGES
HOV Lanes Opened December 15, 1975
Revised bus routes
Fare Increase
40¢
35¢
Westbound
Eastbound
400
300
200
100
PEAK HOUR BANFIELD FLYER RIDERSHIP
JULY,1977
JUNE
MAY
APR.
MAR.
FEB.
JAN.1977
DEC.,1976
NOV.
OCT.
SEP.
AUG.
JULY
JUNE
MAY
APR
MAR.
FEB.
JAN.,1976
DEC.,1975
NOV.,1975

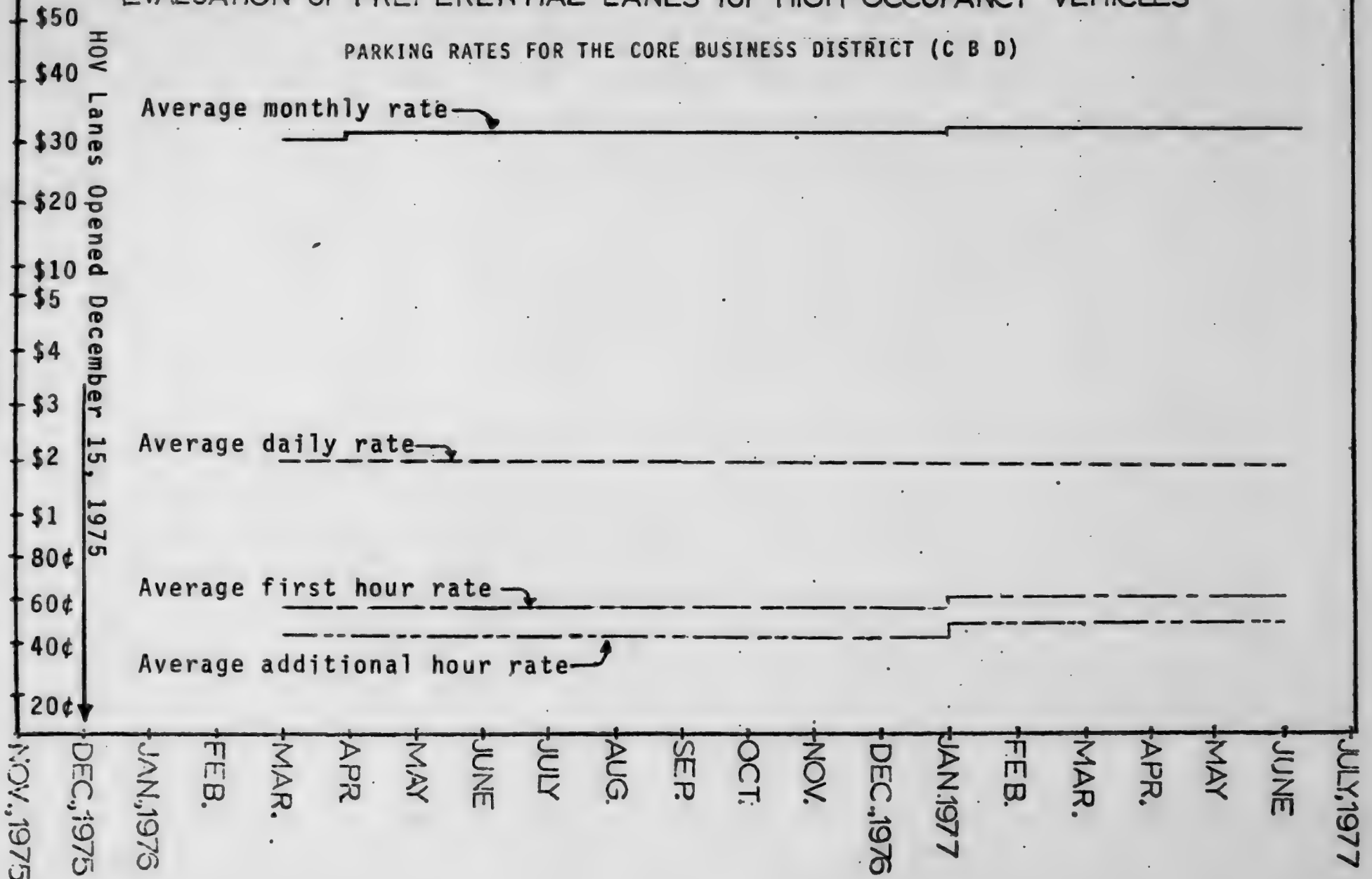
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

CHANGE IN PEAK HOUR LANE USAGE BY CARPOOL VEHICLES FOR ALL LANES INCLUDING HOV LANE AND FOR HOV LANE



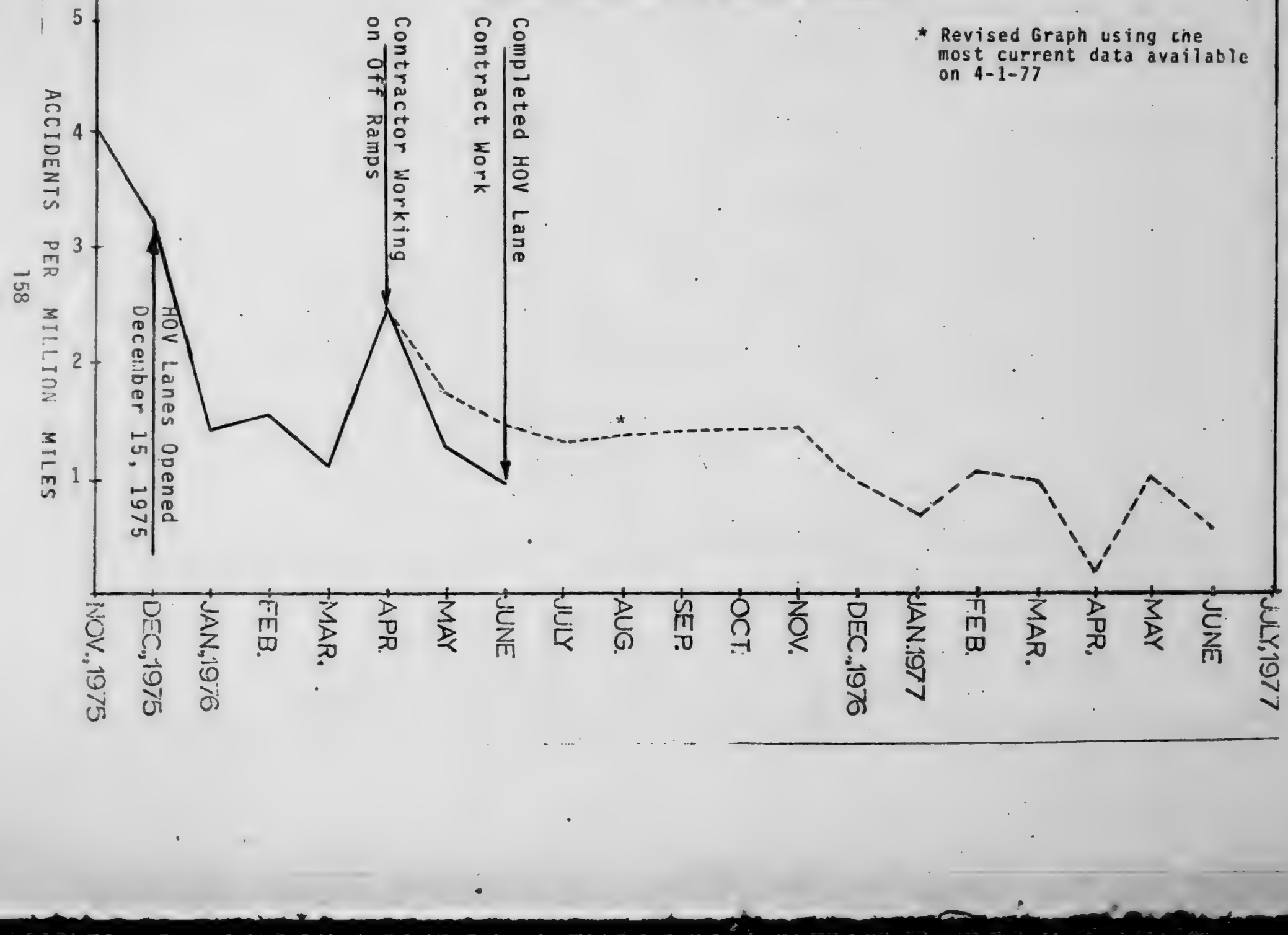
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

PARKING RATES FOR THE CORE BUSINESS DISTRICT (C B D)



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

ACCIDENT RATE FOR THE BANFIELD FREEWAY

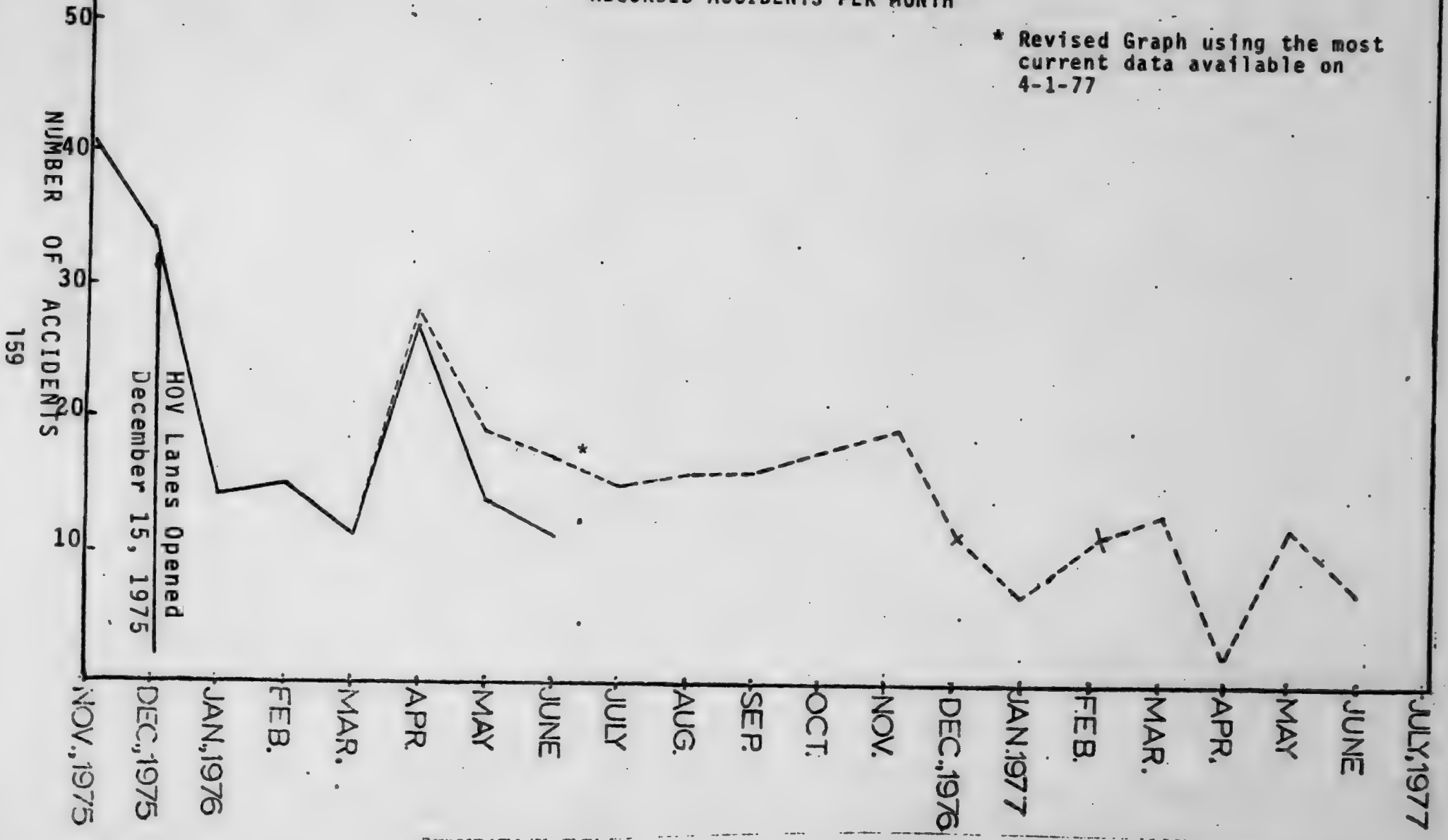


* Revised Graph using the most current data available on 4-1-77

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

RECORDED ACCIDENTS PER MONTH

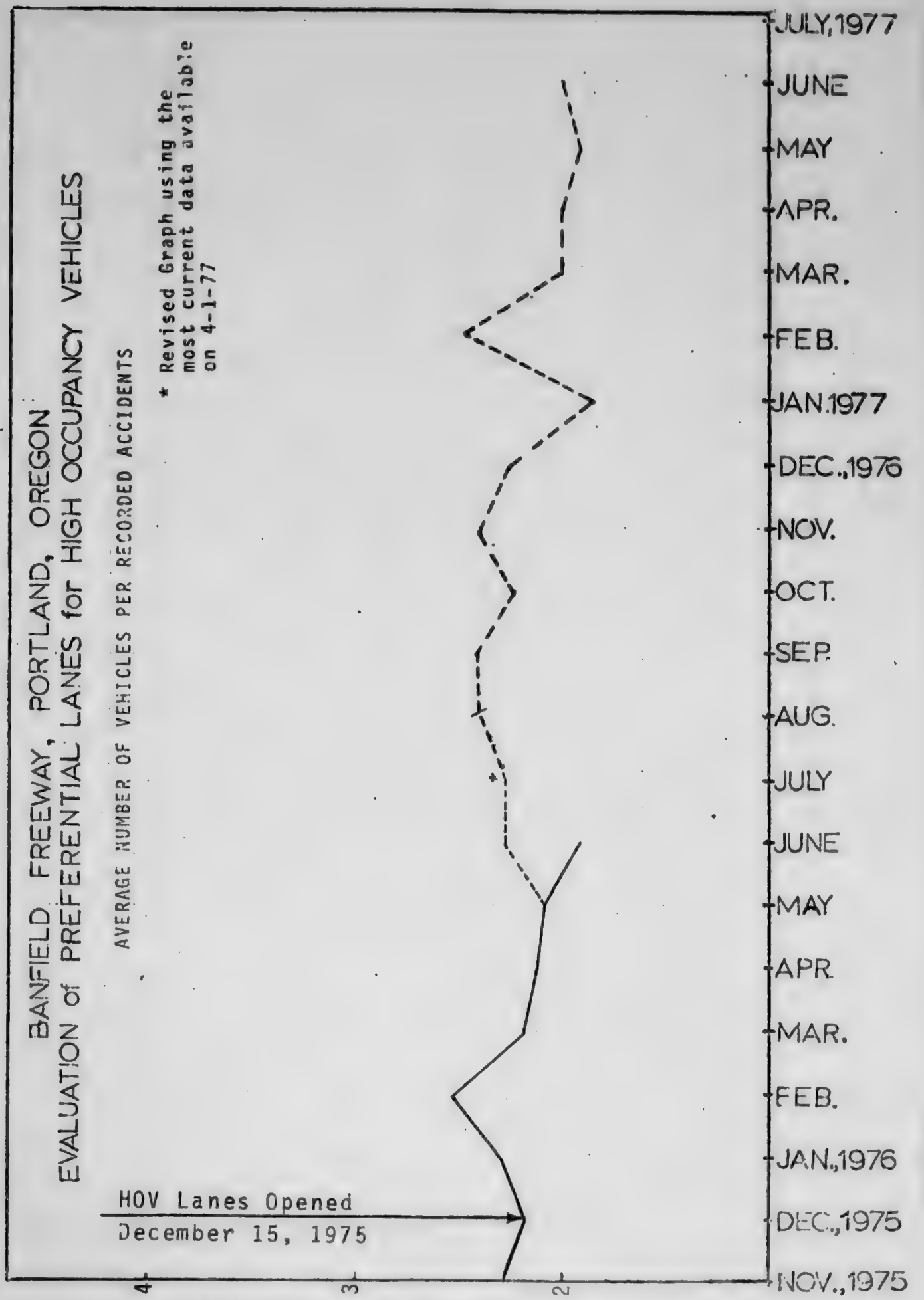
* Revised Graph using the most current data available on 4-1-77



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

AVERAGE NUMBER OF VEHICLES PER RECORDED ACCIDENTS

* Revised Graph using the most current data available on 4-1-77



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APPENDIX D
DETAILED RESULTS OF TRANSIT AND CARPOOL SURVEYS

Section 4 dealing with modal shifts summarized the results of the transit and carpool survey conducted in the last part of 1976. Appendix D will tabulate the results of this survey so the complete standing of the answers given to the questions can be displayed. The questions dealing with origin and destination have been omitted since they have been treated fully in Section 4.

BANFIELD FLYER RIDERS SURVEY:

"How did you arrive at the Park-and-Ride Lot today?"

Mode	Number of Respondents	Percent of Total
Car, drove alone	133	55%
Carpoolers	35	14.5
Car, dropped off	35	14.5
Bus	4	2
Walk	28	12
Other	4	2
	239	100%

TABLE D-1 MODE OF ARRIVAL AT PARK-AND-RIDE LOT

"What time does your work shift begin?"

Time	Number of Respondents	Percent of Total
7:00	1	.4%
7:30	33	13.6
7:45	10	4.1
7:50	1	.4
8:00	105	43.2
8:15	10	4.1
8:25	1	.4
8:30	74	30.5
8:35	1	.4
9:00	7	2.9
	243	100.0%

TABLE D-2 WORK STARTING TIMES

"What time does your work shift end?"

Time	Number of Respondents	Percent of Total
Before 4:00	9	4%
4:00-4:05	9	4
4:15	19	8
4:30	60	25
4:45	22	9
5:00-5:05	111	45
5:15	1	0
5:30	8	3
6:00	2	1
Other	2	1
	243	100%

TABLE D-3 WORK ENDING TIMES

"When did you start using the Banfield Flyer?"

Quarter	Number of Respondents	Percent of Total
1975-December (Beginning of service)	35	15%
1976-January-March	22	10
April-June	25	11
July-September	31	14
October-December	55	24
1977-January-March	41	18
April 1-20	18	8
	227	100%

TABLE D-4 BEGINNING FLYER USE BY QUARTER

Year	Number of Respondents	Percent of Total
1975	35	15%
1976	133	59
1977	59	26
	227	100%

TABLE D-5 BEGINNING FLYER USE BY YEAR

"How did you get to work or school before you started to use the Banfield Flyer service?"

Mode	Number of Respondents	Percent of Total
Car, drove alone	65	27%
Two-person carpool	30	13
Three-person carpool	10	4
Another bus	112	47
Other	21	9
	238	100%

TABLE D-6 FORMER MODES OF TRAVEL

"If you used another bus line which line did you take?"

Line No.	Number of Respondents	% of former riders of another line
1	2	1%
3	3	3
5	1	1
9	7	6
14	3	3
17	4	3
18	34	30
19	29	26
20	11	10
21	1	1
26	1	1
31	1	1
40	1	1
44	13	12
56	1	1
	112	100%

TABLE D-7 FORMER BUS LINES

"If you formerly traveled by car, which route did you normally use prior to the Banfield HOV lane?"

Route	Number of Respondents	Percent of former car riders or drivers
Banfield	100	63%
Burnside	14	9
Sandy	4	2
Glisan	5	3
Other route	36	23
	159	100%

TABLE D-8 PREVIOUS TRAVEL ROUTE

"Which factors had the greatest effect on your decision to ride the Banfield Flyer? Check as many as apply to you."

Factor	Number of persons	Percent of total riders
Cost savings	167	67%
Travel time savings	140	56
Non-stop service	173	69
Convenience	79	32
No auto available	8	3
Other	14	6

TABLE D-9 ATTRACTION FACTORS

Reasons for Flyer Use	Previous Mode of Travel: Car-drove alone	2 or 3 person carpool	Another bus	Other	Total
Cost savings	53	29	59	16	157
Travel time savings	5	5	39	4	53
Non-stop service	4	4	10	0	18
Convenience	3	0	1	1	5
No auto available	0	1	0	0	1
Other	0	1	1	0	2
Total	65	40	110	21	236

TABLE D-10
REASONS FOR FLYER-USE COMPARED
TO PREVIOUS MODE OF TRAVEL

"How did you learn about the Banfield Flyer service? Please check as many as apply to you."

Source	Number of Responses	Percent of Total Riders
Newspaper	80	32%
Highway signs on the Banfield	59	24
Posters	31	12
Brochures	82	33
Employer	10	4
Radio	19	8
TV	22	9
Billboards	10	4
Other	95	38

TABLE D-11 SOURCES OF INFORMATION ABOUT FLYER SERVICE

"Which trips do you ride?"

Trip	Number of Persons	Percent of Total
A.M. only	25	10%
P.M. only	0	0
Both	224	90
	249	100%

TABLE D-12 TRANSIT TRIPS

"How often do you ride the Banfield Flyer service?"

Frequency of Trip	Number of Persons	Percent of Total
Every weekday	205	82%
About three or four days a week	34	14
One or two days a week	8	3
One to three days a month	0	0
One to ten days a year	2	1
	249	100%

TABLE D-13 TRIP FREQUENCY

"How many automobiles are in operating condition in your residence?"

Number of Autos	Number of Respondents	Percent of Total
None	9	4%
One auto	83	34
Two autos	110	44
Three or more autos	45	18
	247	100%

TABLE D-14 AUTO OWNERSHIP

"Which increased activity do you think would do the most to improve air quality in the Portland region?"

Activity	Number of Respondents	Percent of Total
Mass transit	187	82%
Carpool	11	5
Emission inspection	8	3
Traffic improvements	18	8
Other	5	2
	229	100%

TABLE D-15 IMPROVING AIR QUALITY

"Please indicate your age."

Age	Number of Persons	Percent of Total
Under 20	6	2%
20 to 44	194	79
45 to 64	43	18
65 or over	2	1
	245	100%

TABLE D-16 AGE OF RIDERS

"Please indicate your sex."

Sex	Number of Respondents	Percent of Total
Female	150	61%
Male	94	39
	244	100%

TABLE D-17 SEX OF RIDERS

"Please indicate your annual family income (before taxes)."

Annual Income	Number of Respondents	Percent of Total
Under $5,000	5	2%
$5,000 to $9,999	41	17
$10,000 to $14,999	51	22
$15,000 or over	129	54
Don't know	11	5
	237	100%

TABLE D-18 FAMILY INCOME

CARPOOL DRIVERS AND PASSENGERS:

"How did you normally commute prior to using the Banfield HOV lanes?"

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Bus	4	4%	45	27%
Drove alone	31	29	33	20
2-person car-pools	35	33	36	21
3-person car-pools	37	34	53	32
	107	100%	167	100%

TABLE D-19 PRIOR COMMUTING HABITS

"What route did you normally use prior to the Banfield HOV lanes?"

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Banfield	73	70	108	68
Sandy	3	3	5	3
Burnside	9	9	7	4
Glisan	8	8	16	10
Other route	11	10	24	15
	104	100%	160	100%

TABLE D-20 PRIOR COMMUTING ROUTES

"How did you first hear about the Banfield HOV lanes?"

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Newspapers	51	29%	77	30%
Radio	21	12	33	13
Television	31	18	54	21
Employer	3	2	5	2
Brochures	11	6	15	6
Billboards	9	5	12	5
Signs on Banfield	41	24	50	20
Other	7	4	7	3
	174	100%	253	100%

TABLE D-21 PUBLICITY MEDIUM

"What incentive contributed to the formation of your carpool?"

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Cost savings	50	36%	77	35%
Time savings	35	25	38	17
Convenience	31	23	73	33
Employer incentives	5	4	8	4
Environmental concerns	12	9	16	7
Other	4	3	9	4
	137	100%	221	100%

TABLE D-22 CARPOOL INCENTIVES

"What increased activity do you think would do the most to improve air quality?"

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Mass transit	24	19%	57	29%
Carpooling	34	26	54	27
Vehicle emission inspections	15	12	20	10
Traffic flow improvements	40	31	52	27
Other factors	15	12	14	7
	128	100%	197	100%

TABLE D-23 IMPROVING AIR QUALITY

NON-HOV LANE USERS:

"What do you think is the major reason more people do not carpool?"

	Number of Responses	Percent
No personal privacy	106	8%
Inconvenient	547	44
Need car for work	277	22
Unreliable	169	14
Other	155	12
	1,254	100%

TABLE D-24 REASONS FOR NOT CARPOOLING

"What do you think is the major reason more people do not ride the bus?"

	Number of Responses	Percent
No personal privacy	91	7%
Too infrequent	145	11
Need car for work	238	18
Too slow	225	17
Route inconvenient	361	27
Park & Ride locations inconvenient	105	7
Other	177	13
	1,342	100%

TABLE D-25 REASONS FOR NOT RIDING THE BUS

"Which increased activity do you think would do the most to improve air quality?"

	Number of Responses	Percent
Mass transit	252	26%
Carpooling	79	8
Vehicle emission inspection	118	12
Traffic flow improvements	405	42
Other factors	111	12
	965	100%

TABLE D-26 IMPROVING AIR QUALITY

APPENDIX E
REFERENCES

"Banfield Flyers Ridership Survey", Tri-County Metropolitan Transit District, July 1977.

"Banfield Marketing Proposal", prepared for Oregon Department of Transportation by CARPOOL Project, Portland August 1, 1975.

"Banfield HOV Survey Comments", Oregon Department of Transportation/ Tri-County Metropolitan Transit District, December 1976. (Carpool Survey).

"Banfield Freeway High-Occupancy Vehicle Lane Traffic Study", prepared by Oregon Department of Transportation for the Banfield HOV Lane Technical Advisory Committee, monthly January 1976 thru June 1977.

"Banfield Freeway Traffic Survey", Oregon Department of Transportation, April 1973.

"Bus/Carpool Lanes Route 101 Marin County, Caltrans, District 4, March 1977.

"Carpool Incentives and Opportunities", U.S. Department of Transportation, February 1975.

"Carpool Project, Portland Metropolitan Area, 1975 Report", CARPOOL Project, Portland, January 1976.

"Carpool Project, Portland Metropolitan Area, 1976 Report", CARPOOL Project, Portland.

"Composite Traffic Accident Listing, 1971 thru 1975", Oregon Department of Transportation, August 1975.

Evaluation of Carpool and Bus Traffic Operational Incentives, RFP-129, Federal Highway Administration, November 1974.

Evaluation Criteria Related to Bus and Carpool Traffic Operational Incentive Projects, 1975 FCP Research Conference, Minneapolis, September 1975.

Evaluation of the Shirley Highway Express-Bus-on-Freeway Demonstration Project (The), Final Report, Report DOT/UMTA 7, prepared for the Urban Mass Transit Administration, August 1975.

"Final Negative Declaration, Banfield Freeway High-Occupancy Vehicle (HOV) Lanes", Oregon Department of Transportation, June 4, 1975.

"Expanded Transportation Services", Proceedings of 1975 National Conference on Areawide Carpooling, Houston, Texas, December 1975.

General Planning Data and Projections, Columbia Region Association of Governments, Portland, Oregon, January 1977.

Highway Air Quality, Implementation Package, No. 76-5, U.S. Department of Transporation.

"HOV Lane Project,Banfield Freeway Quarterly Report", Metropolitan Division, Oregon Department of Transportation, October 15, 1976.

"HOV Lane Project, Quarterly Report",Metropolitan Division, Oregon Department of Transportation, January 15, 1977.

"HOV Lane Project, Quarterly Report", Metropolitan Branch, Oregon Department of Transportation, April 15, 1977.

"Interstate Air Pollution Study, Phase II Project Report, Part 4- Effect of Air Pollution, U.S. Department of Health, Education and Welfare, December 1966

"Issues in Busway and Bus/Carpool Lane Enforcement", prepared for Transportation Research Board, 55th Annual Meeting, January 1976.

I-205 Final Environmental Impact Statement, Howard, Needles, Tammen & Bergendoff, 1974.

1977 Gas Mileage Guide, FEA/D-77-007, Federal Energy Administration/ Environmental Protection Agency, January 1977.

"Project Air Quality Considerations", memorandum, Michael Lash, Director of Environmental Policy, U.S. Department of Transportation, January 16, 1977.

Preferential Facilities for Carpools and Buses, Seven Reports, (HHP-26), Federal Highway Administration, May 1976.

"Procedures of Estimating Automobile Fuel Consumption on Congested Urban Roads",NBSIR-74-595, Urban Mass Transit Administration, August 1974.

"Public Transit Right-of-Way", J.J. Baker, Transportation Research Board Meeting, Washington, D.C. January 15, 1975.

"Report from the General Manager, 1976-1977 (A)" Tri-County Metropolitan Transit District, Portland.

"Santa Monica Freeway Diamond Express" California Department of Transportation, March 1976, April 28, 1976, July 1976.

"Smog Chemistry Points Way to Rational Vehicle Emission Controls", SAE Transactions, Vol 74, 1966.

"Supplement No.5 for Computation of Air Pollutant Emission Factors", Second Edition, Environmental Protection Agency, December 1975.

"The Wrong Way is Sometimes the Right Way", Marshall Suloway, Transportation Engineers Journal of ASCE, Vol. 102, No. TE4, November 1976.

Transportation and Traffic Engineering Handbook, Institute of Traffic Engineers, 1976.

APPENDIX F

PUBLIC ATTITUDE

The most negative public responses to the HOV lane concept occurred prior to the actual opening of the preferential lanes to traffic. Apprehension concerning the narrow lanes and no shoulders, and resentment that "taxpayers" who have paid for the HOV lanes are prevented from using them, was evident in frequent editorials and in a considerable number of letters and telephone comments received by the ODOT Metro staff. After the opening of the HOV lanes, the adverse comments gradually became balanced, and eventually surpassed, by constructive advise on how to make the project operate better, and by general support for the facility as an interim solution to the transportation problem in the corridor. Majority acceptance of the HOV lanes may, or may not, be evidenced by the fact that a bill introduced in the last Oregon legislature to abolish the HOV lanes did not get enough support and the bill's sponsor withdrew it.

The following pages provide a representative sample of editorials which appeared in Portland area newspapers:

Speeding Traffic on Banfield

Each motorist who used the Banfield Freeway will have his own reaction to plans for a restricted lane devoted to buses and carpool vehicles.

Probably most motorists won't like it because carpool cars are designated as those with three or more passengers, and present traffic counts show only about 5 percent of cars using the Banfield have three or more persons.

Thus, the one-man-to-a-car commuter will be penalized, the family with only two members will be penalized and owners of cars which will hold no more than two persons will be penalized.

However, they already are being penalized by traffic jams which, at rush hours, slow traffic movement to about 12 miles per hour.

Two lanes will still be open without restriction; and if the shift to buses and carpools lightens the load on the freeway, traffic should speed up.

The average motorist resents any order which tells him where and how he can drive, but the Banfield, boxed in as it is, presents a peculiar problem.

The proposal by the State Highway Division deserves a reasonable trial.

OREGON JOURNAL
Wednesday, May 21, 1975

One Lane Favored

To the Editor: Richard Colby's article in The Oregonian on Jan 21 about the Oregon Highway Division's exploring the idea of restricting one lane to buses and car pool vehicles prompted me to write to you.

I don't see why it should take so long for some action, if they really want to cut down on private car use.

Signs could be posed on the freeways leading to downtown Portland saying that during the rush hours all cars and pickup trucks with just the driver would be restricted to the slow lane. Cars with two or more people, trucks and buses could use the fast lanes. Non-eligible vehicles in the fast lanes could be given traffic tickets.

It wouldn't take long, after paying a few heavy fines and seeing the other carpoolers and buses going on by before the people would soon make an effort to ride the bus or get in a carpool, especially the people who drive to downtown Portland and leave their cars parked all day.

This seems to me to be a much simpler method than creating another lane, especially as it is only needed during the rush hours. There would be enough traffic tickets issued for awhile at least to pay for the needed signs and the extra police patrolling that it would take.

It would most likely create a traffic jam in the slow lane, but that is what is needed to get people out of their cars to ride the bus downtown.

L. HINMERS,
4035 N. Colonial St.

Is It Legal?

To the Editor: The Oregon State Highway Department is to be commended for adding on an extra lane to the Banfield Freeway. However, the concept of restricting the fast, inside lane to five or six buses every half hour, along with those cars which carry three or more passengers, is unworkable, uneconomical, unenforceable, and perhaps, illegal.

It is questionable that restrictions can be made upon tax-paying motorists, or favoritism given to a local transit system, on an interstate highway funded with federal funds and taxpayers' dollars, including state and federal gas taxes.

We who drive that freeway can envision, if the Highway Department can't, the chaos at the Lloyd Center exit when the Troutdale bus, along with other three-passenger vehicles, chooses to exit there, having obediently remained in the inside lane to that point.

I have not asked the Highway Department how it intends to keep the three-passenger vehicles in that inside lane and the rest of us out.

The idea of three narrower lanes with restricted speed would be a big improvement at a relatively small cost. Most prudent drivers use the lane they need to get where they want to exit.

CLIFFORD L. CARLSON
1006 N.E. 131st Pl.

Congestion Relief

To the Editor: I would like to reply to Clifford Carlson's comments about the Banfield Freeway that appeared in "The people own corner" on August 5.

Exclusive and preferential use of highways can be found throughout the United States - in the West, in Los Angeles, San Francisco and Seattle. In Oregon the Legislature amended ORS 483 to authorize the Department of Transportation to "Designate lanes to be used exclusively by buses or high-occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation".

The additional lanes on the Banfield will be reserved for buses and carpools with at least three persons. The remaining lanes (same number as at present) will be for use by all, including buses and carpools if they choose, and depending upon their destination.

Enforcement may be difficult, it is to be accomplished by the State Police with additional patrols. A high dependency for enforcement will rest with the motorist, as with the case in all highway law.

The purpose of the project is to relieve traffic congestion by increasing the people-carrying capacity to provide incentive for increased bus and carpool use. There will be immediate relief, and, therefore, benefit to the lanes assigned to to all motorists by diverting existing buses and carpools to the additional lanes. In addition, 10 buses being acquired by Tri-Met to be used exclusively as "Banfield Flyers" have the potential of removing 500 people, and 400 autos from the remaining lanes.

The incentives to entice those persons who have the opportunity to carpool to do so will remove three cars from the lanes assigned to all persons for each carpool established. The potential for substantial relief to all motorists exists with this project, while at the same time reducing the use of engergy, air pollution and congestion at the freeway terminal.

R.N. BOTHMAN,
Assistant State Highway Engineer
5821 NE Glisan

Banfield Butchered

To the Editor: Those of use who regularly use the Banfield Expressway are experiencing a mounting horror these days as we see the remodeling changes being made on that much-traveled east-west freeway.

Talk about a well-engineered death trap. Anyone can foresee the problems in trying to make a six-lane expressway out of one intended for four-lane use. As in this case, the result can only be confusion and considerable because drivers will have to watch continually for narrowing stretches as the highway passes beneath underpasses and areas where widening could not be accommodated.

As if that weren't enough, proximity to the center guard rail is being narrowed over much of the route, giving drivers less leeway in case of swerving.

If one is forced to stop because of motor failure, I shudder to think what could happen. When the current remodeling is completed, it appears there will be little or no shoulder on the highway for emergency parking. True, neatly spaced turnouts have been provided every one-half mile or so, but whose engine is going to conveniently go dead or a tire go flat so that the driver may turn quickly into one of these spots?

I have never had any definite opinion for or against the idea of a Mt. Hood Freeway, now abandoned, but it seems that completion of that highway would have been a far more prudent plan to ease east-west traffic problems than butchering the Banfield.

Whose idea was this?

JANETTE L. SCHNEIDER
3310 NE 36th Avenue

Banfield Explained

To the Editor: In response to letters "To the Editor" of October 12 and 22, the Oregon State Highway Division is developing high-occupancy vehicle lanes on the Banfield Freeway.

The purpose of those lanes is to carry buses and carpools with three or more people in order to relieve congestion in the other lanes.

Safety features have been added to the freeway, such as the concrete median and shoulder barriers, turnout lanes, raised pavement buttons, skid-resistant surfacing, breakaway light standards, etc. to compensate for the reduction in lane widths.

A glare screen, similar to the one on I-5, was considered for the Banfield, but the $150,000 for construction was not available. A partial installation is now being considered.

The height of the barrier is based upon a design which will contain autos that strike it.

The project on the Banfield is a "doable" project; that is, one that is possible to implements in a short time. It is not intended or anticipated to provide for the east-west movement in Southeast Portland. It will, however, provide immediate relief until a permanent solution can be developed by the people in the metropolitan Portland area.

R.N. BOTHMAN,
Assistant State Highway Engineer
5821 NE Glisan

Ideas for Banfield

To the Editor: I am writing in regard to the Banfield Freeway project, and have several suggestions that I feel would improve its efficiency.

I have spent much time parked at the side of the roadway observing traffic flow and speeds. The freeway is far safer than it has been for years, and I feel the 50-mile-per-hour speed limit of the past should be reinstated. Forty-five miles-per-hour seems too conservative, and in order to obey it, one must actually impede the traffic flow.

Of highest concern to me are the express lanes, which definitely need changes in their application. During the non-rush hours the lanes are rarely used, and a carpool at 2 o'clock in the afternoon is an uncommon sight. In one short span I personally counted two autos in the express lane, while 43 drove by in the other lanes. The Tri-Met bus system makes little use of the restricted lanes except during rush hour, so often there is unnecessary congestion in the other lane.

I believe the restricted lane concept is a good one, but it should be changed to apply in heavy traffic hours- 7-9a.m. westbound and 4-6p.m. eastbound would seem like practical hours to me.

I hope these ideas are followed so that our Banfield will become usable for all, and an example for the rest of the country.

LES POOLE,
14021 SE Stark St.

Banfield HOV lane has few friends

If there is anything hard-core opponents of the proposed High-Occupancy Vehicle lane on the Banfield freeway hate more than the lane itself, it is the buses that will use it.

The outpouring of venom toward the lane that will be restricted to High-Occupancy Vehicles (HOV) at a State Highway Division hearing last week was matched almost complaint for complaint by disgust with buses.

Clearly the eight or nine persons who testified against the HOV lane were in most cases confirmed users of automobiles and trucks, and in some cases they were not in a position to use buses to commute.

Their doubts that buses have any resonable ridership as weel as their antipathy for bureaucracy in general and the Tri-Met bureaucracy specifically proved to be a trial for Steve McCarthy, Tri-Met assistant general manager who spoke at the hearing.

The HOV lane, which will be used only passenger vehicles with three or more persons, has been achieved by reducing lane widths and wiping out emergency stop lanes and replacing them with occasional turnout areas.

The much needed new pavement and improved median barrier are not enough to mollify those who see danger in the concept.

A state by Max Klotz, metrololitan planning engineer for the Highway Division, that the experimental project will be revised or even killed if necessary, drew a question asking, "How many persons will have to die before such action is taken?"

The real hangup for some of the group, although, was the disdain for the bus. Charges that buses have few passengers, resentment at public financing of the system, accusations of noise and air pollution by buses and a variety of "Big Brother" complaints joined some of those attending in a kind of ugly camaraderie. One person in the audience even tossed out a half-worded threat that shingle nails would be spread on the freeway lane.

The bus riders or supporters were not heard from publicly at the hearing with the exception of a man representing a Portland architect group that favors mass transit and car pools.

One woman was heard to mutter quietly to herself or a companion, when a man suggested getting rid of all buses, "What about those people who don't drive?. She did not speak up, however,

There was agreement that both the Highway Division and Tri-Met probably have approached the experiment in a different position.

Klotz noted that this hearing should have been held sooner, even though it was not required and there was one last May at which only two persons spoke.

Hhen the Highway Division and Tri-Met announced the HOV lane promotion campaign the same day the division announcement of the hearing arrived in the mail, persons interested thought it a bit odd. That kind of timing was a reason cited by one man at the hearing who called the process a whitewash.

Klotz made a good pitch for the lane and noted that present commuters will not lose a lane since one has been added, however wisely or otherwise, and he said the division realizes the lane will be "pretty empty" until car pools and bus riders learn of its advantages.

McCarthy and his colleagues know they have to make strong efforts to reach east Multnomah County commuters with information about the park and ride stations at Multnomah Kennel Club and at Mall 205 and Gateway shopping areas.

He also will have to convince potential riders that the five minutes they will save by taking the added peak hour runs on the freeway is a valid reasons to switch to Tri-Met. He maintains that that much time is a draw for potential riders and that in terms of a bus agency itself can be a big money saver when applied to numberous runs each day. About 280 trips are made on the Banfield now, although not all would use the HOV Lane.

Sunday Oregonian 11/23/75
by Dan Hortsch, staff writer

HOV Lanes Working

To the Editor: Mr. Gary Smith reported that on Jan.14 he observed an empty restricted lane on the Banfield Freeway. One might think that the restricted lanes are never used if you're driving along and there's no one in the lane adjacent to your car.

I personally conducted counts of carpools in the HOV Lanes while standing on the 47th Street overpass.

On Jan. 26, 4:30-5:30 p.m. a total of 191 valid three-person carpools were in the high-occupancy vehicle (HOV) lanes. On Jan. 27, 7-8 a.m., a total of 193 valid three-person carpools used the lanes.

When the total number of cars on the freeway is computed, with Tri-Met passenger counts added in, 20.76 percent of the morning commuters are in the restricted lanes in 5.52 percent of the vehicles. In the evening, 22.5 percent of the commuters are in 5.6 percent of the vehicles.

Bus ridership is up; carpools have increased; the people like it so the lanes are working.

JERRY W. LOWE,
Carpool Project Coordinator
520 SW Yamhill Street

HOV Rules Tight

To the Editor: The rules pertaining to the high-occupancy vehicle lanes on the Banfield Freeway should be changed so that trucks could use them as well as buses and carpools, allowing all trucks and trailers which have combination of three axles or more and a gross weight of 28,000 pounds to use those lanes; or it could be broadened to include smaller trucks as well.

A change of this sort would eliminate some of the congestions and solve some of the problems which exist at the present on that freeway.

DAN MOSEE,
Multnomah County Commissioner
County Courthouse
620 S.E. Main Street

Oregonian 10/31/76

Cancel That Idea

To the Editor: Commissioner Dan Mosee is on the wrong track when he advocates opening the HOV Lane of the Banfield Freeway to trucks.

His plan would not"...eliminate some of the congestion and solve some of the problems..." but would do just the opposite. One has merely to ride either direction between 18th and 73rd Avenues on the freeway to see the many places where trucks have already left their calling cards in the form of scrapes on the center divider and wiped out portions of the glare shield.

This freeway is really too full of curves for the larger trucks and the lanes are too narrow. This is apparent to anyone who has seen these monsters continually zigging and zagging across the lane divider lines. Also, don't forget that trucks impede the vision of car drivers.

By the way, shouldn't Oregon's law which restricts trucks and campers to the right-hand lane be applicable to the Banfield?

JACK RUBECK
356 NE 114th Avenue

Banfield Compliment

To the Editor: Just a few good words on the recent Banfield modifications.

I recently had a mechanical problem and was forced to pull into an emergency turnout. I noticed a call box and lifted the receiver, and the sheriff's office answered. I told them to call my son to bring tools and asked them to give a message to my wife. All this was done in an efficient and courteous manner. I was back on the road in one hour.

I believe those responsible should be complimented.

JOEL SAPPENFIELD
7515 SE Mill

Oregonian 3/20/76

HOV Lane Backer

To the Editor: This is regarding the recent letter from R.E. Cook on the failure of the Banfield Freeway's high-occupancy vehicle lane.

Yes, it is a failure. But only until people like Mr. Cook get tired enough of getting rear-ended and spending an hour driving home that they finally join a carpool. The choice is theirs.

JOHN FRASER JR.
9207 SW 26th Avenue

Oregonian 6/4/76

Diamond Lane

To the Editor: Some months ago the diamond (high-occupancy vehicle) lane was born, at which time it seemed to be a reasonable idea and an honest effort.

However, over the months, the diamond lane has done little but cause irritation with the driving public, and the concept has defeated itself - more gasoline is spent in traffic jams than is saved from the cars pooling.

The diamond lane is also highly discriminatory. Car-pooling is limited to but a few people who live in the same approximate area east of the city, work in the same vicinity of the city and have the same hours.

It appears that consideration for vehicles, other than the standard automobile and occupational differences were neglected during the conception of the diamond lane.

Are not motorcycles and two-seat sports cars, which are physically incapable of carrying three passengers discriminated against? And also those who travel the Banfield each day but find it impossible to car-pool because of different destinations every day? For example, the salesman making calls, the trucker taking deliveries to various places in the city, the construction worker carrying materials and working at different job sites every couple of days, the taxi driver picking up fares, tourists under three people, and the list could go on. Are not all these drivers being discriminated against?

Obviously, those who enforce the idea of the forbidden lane all work in the same office building and can see no reason why everyone can't car-pool. Their view of the flow of traffic in and out of the city is very limited. (These same people probably live in the Southwest, which is why I-5 was excluded from a diamond lane.)

I believe it is time to gracefully admit defeat and put our law enforcement officers back to work protecting the public instead of chasing single and double drivers down the diamond lane six hours a day.

JAMES R. ALMBLAD
10935 N.E. Fargo Street

Oregonian 11/11/76

HOV criticized at hearing

Elimination of the HOV Lanes on the Banfield would not open the freeway to six lanes of traffic, Don Adams of the Oregon Department of Transportation told a small crowd at a public hearing at Centennial Highschool Wednesday.

The hearing was on the Banfield Transitway proposals, but the HOV Lanes sparked the most controversy.

Most agreed that the lanes should be eliminated and the Banfield opened to six lanes of traffic.

However, Adams said that should the lanes be eliminated, the freeway would revert back to its original four-lane status, with no HOV or additional traffic lanes.

In a later interview, Bob Bothman, metropolitan engineer for ODOT, said the department would have to apply for an indirect source permit from the Department of Environmental Quality (DEQ) before the HOV lanes could be open.

"If we drop the HOV, we have to get an indirect source permit. This means we have to prove that six lanes of traffic would have no harmful effect on the air quality, noise levels and other environmental factors," Bothman said.

"Obviously there would be an increase in the noise levels and air (contaminants). We're exceeding the noise levels on the Banfield now and are borderline on the air quality".

Asked what the chances were of the DEQ approving an indirect source permit under these conditions, Bothman said, "I see none."

Tony George, transporation program coordinator for the DEQ, said air quality levels on the Banfield probably are exceeding allowable measures.

"The situation may be worse than borderline on the air quality level," George said. "It may be that the Banfield is violating standards."

He said new tests will be run on the Banfield soon.

George said the HOV project was approved without an indirect source permit because it is a temporary project with a definite time limit. "The only option if the Banfield is eliminated is to restripe the lane with shoulders," George said.

However, he added that action by the state legislature to eliminate the HOV could supersede DEQ requirements.

Sen. Vern Cook, D-Gresham, has introduced such a bill, and said he is sure passage would overrule any DEQ regulations. "This would supersede any DEQ authority. I'll make damn sure of that," said the critic of the HOV.

Cook has written into the bill that the HOV lanes would become general traffic lanes upon passage of the measure.

Cook said he anticipates opposition to the bill from both ODOT and the DEQ. "They're going to throw the Environmental Protection Agency and the DEQ and whoever else they can find at us."

Cook said the air quality and the noise levels will improve on the Banfield if the HOV is removed because more traffic would move smoothly and cars would not be "just sitting there burning up gas."

"The assumption is that if people are not driving the Banfield they will take the bus. I don't buy that assumption. If people can't drive on the Banfield they will take Halsey, Burnside and Division."

Cook's bill is scheduled for a hearing April 1, at 3 p.m. in Salem.

ODOT's Bothman said the HOV project will be evaluated in July after a study is completed on the project. At that time it could be eliminated and go back to four lanes of traffic or continue as is.

<u>Gresham Outlook</u>, 3/7/77

SOUND OFF:

Should the HOV lanes on the Banfield be ended?

(Asked on SW Alder Street)

By O'RYAN

JACK LEMBECK, writer, Downtown. If they were planning to turn them into rail (transit ways) then it would be a good idea. But since the buses have to get in and out of traffice, I don't see the advantage.

JIM MURPHY, claims manager, Lawrenceville, NJ. No not at all. I think experience has shown that you have to make some provision for public transportation. I think the largest turnpike in the country is the New Jersey Turnpike, which has provisions for public transportation, and its made it a lot better and it's cut down on accidents.

VICTORIA LOOMIS, student, Forest Grove. I think it's a good idea. But I think the lanes should be on the outside rather than on the inside. They are used for buses, but the buses are slower and they have to get over and come off the freeway frequently.

NANCY LORENZ, office clerk, Tigard. I think it's a hazard because of the narrowness of the lanes. It seems like a waster considering they need more space for cars because there are more of them using it all the time than an occasional bus.

BOB DORMAN, dance teacher, North. I don't use it very much except during the off hours, but I think it's a good idea to reserve lanes for mass transit. I think we're going to have to go that way eventually. They should do it all over town if they're going to do it.

OREGON JOURNAL 8/6/77

#5259

ADMINISTRATIVE ORDER

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

ORDER NUMBER
39

DATE
February 23, 1978

SUBJECT: Delegation of Authority to Prepare Amendment to Commission Resolution Number 256 to Allow Taxis to Use the Banfield HOV Lane With or Without Fare.

I, Robert A. Burco, do hereby designate Robert N. Bothman, Manager, Metropolitan Branch, to prepare a proposed amendment to Commission Resolution Number 256, allowing the use of taxis with or without a fare on the Banfield HOV lane, publish notice of hearing on the proposed rule amendment, conduct a hearing to be held March 28, 1978, on the proposed rule amendment, and prepare a written summary of statements, and exhibits, and other data received, together with a recommendation for action and present this material to the Commission.

Robert A. Burco

Robert A. Burco
Director of Transportation

DISTRIBUTION:
Assistant Director for Operations
Assistant Director for Administration
Manager, Metropolitan Branch
Manager, Commission Services
Chief Counsel
General Files

8259

9

February 21, 1978

Mr. Thomas Clifford
Legislative Counsel
S101 Capitol Building
Salem, OR 97310

Dear Mr. Clifford:

Attached is a copy of a proposed rule which is being considered for adoption by the Oregon Transportation Commission as a permanent rule. The rule pertains to amendment to the rule establishing the Banfield HOV lanes to allow the use by taxicabs.

The rule is adopted pursuant to ORS 403.532 and ORS 184.619. A hearing will be held on the rule on March 28. Notice of the hearing will be published in the Secretary of State's Bulletin on March 1, 1978. Attached is a copy of the Notice of Hearing.

If there are any questions concerning this rule, please contact Mary Deits, Assistant Attorney General, at 4259.

Very truly yours,

C. W. Head
COMMISSION SERVICES

fkn

Atts.

cc Mary Deits
Max Klotz

RESOLUTION

WHEREAS, ORS 403.532, as amended by Oregon Laws 1975, Ch. 698, provides that the Department of Transportation, with respect to highway or streets under its jurisdiction may designate lanes to be used by buses or high-occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation; and

WHEREAS, the Banfield Freeway, Oregon Highway Number Two is under the jurisdiction of the Department of Transportation; and

WHEREAS, the designation of lanes on the Banfield Freeway for exclusive use by buses and high-occupancy passenger vehicles, including properly licensed or franchised taxicabs, would help to conserve energy by encouraging carpooling and would facilitate public transportation.

NOW,THEREFORE, Resolution Number 256, adopted by the Oregon Transportation Commission on November 25, 1975, is hereby amended to read as follows:

1. The following portions of the Banfield Freeway are designated for exclusive use by buses and high-occupancy use passenger vehicles:

a. The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

b. The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

2. For purposes of this rule, "high-occupancy passenger vehicle" means a passenger vehicle carrying three or more passengers, or a properly licensed or franchised taxicab.

3. Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

4. The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

5. The designation of taxicab use in high-occupancy lanes shall take place upon Commission approval.

This resolution shall be entered in the minutes and records of the Oregon Transportation Commission this _____ day of _____, 1978 as Resolution No._____.

BEFORE THE OREGON TRANSPORTATION
COMMISSION OF THE STATE OF OREGON

In the matter of the amendment of the rule establishing the Banfield HOV lanes to allow the use of taxicabs with or without a fare in the HOV lanes.	)))))	NOTICE OF PROPOSED AMENDMENT OF COMMISSION RESOLUTION NUMBER 256

1. On Tuesday, March 28, at 7:30 p.m., a public hearing will be held in the the Department of Transportation's conference room, 5821 N.E. Glisan St., Portland, to consider the adoption of an amendment to the rule establishing the Banfield HOV lanes to allow the use of the Banfield HOV lanes by taxis properly franchised or licensed.

2. The issue to be considered at the hearing is whether the Banfield HOV lanes should be used by properly licensed or franchised taxis.

3. Interested persons may present their data, views, or arguments either orally or in writing at the hearing.

4. A copy of the proposed rule amendment may be obtained by writing to Mr. Cecil Head, 121 Transportation Building, Salem, Oregon 97310.

5. A statement of the need for the intended action has been prepared and is available for public review during regular business hours, 8:00 a.m. to 5:00 p.m. at Rm. 121 Transportation Building, Center and Summer Streets, Salem, Oregon 97310 or 5821 N.E. Glisan St., Portland, Oregon.

6. The Director of the Department of Transportation has designated Robert N. Bothman, Metropolitan Administrator, to preside over and conduct the hearing.

Dated February 21, 1978.

Cecil Head

Cecil Head
Manager, Commission Services

BEFORE THE OREGON TRANSPORTATION
COMMISSION OF THE STATE OF OREGON

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Dated February 21, 1978.

Cecil Head

Cecil Head
Manager, Commission Services

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

INTEROFFICE MEMO
METROPOLITAN SECTION

DIRECTOR'S FILE

TO: ROBERT A. BURCO
Director of Transportation

DATE: February 3, 1978

FROM: MAX J. KLOTZ
Technical Services Engineer

SUBJECT: Delegation of Authority to Prepare Rule, etc.
allowing HOV lane use by taxis with or without a fare

Last Spring, the Transportation Commission asked that consideration be given to allowing taxicabs to use the Banfield HOV lane if the cab had less than three occupants.

The Banfield Technical Advisory Committee has recently voted to recommend to the Commission allowing taxicabs legal use of the HOV lane at any time with or without a fare.

This will require an amendment to the Resolution adopted by the Commission that established the HOV lane.

We are proceeding with the necessary steps, notices, hearing, etc. to have the amended resolution ready for presentation to the Commission at their April meeting.

To accomplish this I need a Delegation of Authority letter designating R.N. Bothman to prepare the rule, conduct the hearing, etc.

A sample that could be used is:

> I, Robert A. Burco, do hereby designate Robert N. Bothman, Manager, Metropolitan Branch, to prepare a proposed rule designating the use of taxis with or without a fare on the Banfield HOV lane, publish notice of hearing on the proposed rule, conduct a hearing to be held March 28, 1978 on the proposed rule, and prepare a written summary of statements, and exhibits, and other data received, together with a recommendation for action and present this material to the Commission.

MJK:js

cc: Mary Deits

RECEIVED
FEB 7 1978
OFFICE
DIRECTOR of TRANSPORTATION

11.125.1367

#8257

ROBERT W. STRAUB
GOVERNOR

Department of Transportation
METROPOLITAN SECTION
5821 N.E. GLISAN, PORTLAND, OREGON 97213

January 27, 1978

Telephone: (503) 238-8231

L.D. McCollum
Senior Contract Administrator
Contract Administration Division
Federal Highway Administration
Office of Contracts & Procurement
Washington, D.C. 20590

Subject: Banfield Freeway HOV Lane Draft Final Report
Contract # DOT-FH-11-9127
Requisition # 41-30-8006 (RFP 058-8)
HCP-40

Please find enclosed for your distribution seven copies of the Draft Final Report and Appendix covering Phase I of the subject demonstration project.

This is in accordance with the terms of the FHWA-ODOT supplemental agreement which requires submission of the Draft Report by January 31, 1978. I understand that FHWA will review this draft and furnish comments to us within 30 days. We will consider these comments when preparing the final report which will be submitted to you on or before March 31, 1978.

MAX J. KLOTZ
Technical Services Engineer

js

cc: C.T. Christensen (FHWA)
F.B. Klaboe
H.S. Coulter
R.N. Bothman
E.S. Hunter
D.R. Adams
D.E. Swan

NOTED
F. B. KLABOE

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JAN 30 '78
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FOR
Info | Invest | R/D | D/R | Sign | Act | File

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

INTEROFFICE MEMO
Metropolitan Branch

TO: F. B. KLABOE
Chief of Operations

DATE: January 13, 1978

FROM: ROBERT N. BOTHMAN
Administrator

SUBJECT: Banfield HOVL report

The final report on the Banfield HOVL has been submitted to the Washington, D.C. office for final review, after which it will be printed and released on April 1.

It might be that the report in summary form should then be presented to the Oregon Transportation Commission at their April meeting.

ebg

1-18-78
Bob
Yes, I agree with

cc Bruce Hunter
Head.

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STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

INTEROFFICE MEMO
Metropolitan Branch

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DATE: January 13, 1978

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1-18-78
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Yes, I agree Fred

cc Bruce
Hunter
Head.

RECEIVED
JAN 18 1978
OFFICE
DIRECTOR of TRANSPORTATION

RECEIVED
DOT OPERATIONS
JAN 16 '78
REFER TO
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25-1367

8259

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bc F. B. Klaboe
H. S. Coulter
R. N. Bothman (enc.)
D. H. Moehring
C. W. Head
Vern Skoog
L. E. George
Gary Potter

January 4, 1978

Mr. H. G. Gale, Director HCP-1
Office of Contracts and Procurements
Federal Highway Administration
400 Seventh Street, S. W., Room 4404
Washington, D.C. 20590

MISC. CONTRACTS and AGREEMENTS No. 5783

Dear Mr. Gale:

As requested in your December 9, 1977 letter, attached are three signed copies of the Supplemental Agreement, Modification No. One to Contract No. DOT-FH-11-9127.

Mr. Howard Bissell of your Research and Development Section and Mrs. Jan Ford, of your Contracts Section, discussed the Agreement with Mr. Max Klotz, Technical Services Engineer in the Portland Metropolitan Office.

Some minor changes on the Agreement were made after their discussion, as follows:

1. Page 2 ARTICLE IV - PERIOD OF PERFORMANCE

   Item a. Phase I changed to read "On or before March 31, 1978".

2. Page 5 ARTICLE X - PROFESSIONAL STAFFING

   PHASE I - corrected the spelling of Max Klotz's name.

3. Page 6 - PHASE II

   Substituted Max Klotz's name for Jim McClure's.

4. Page 1 of Enclosure I - Under "SCOPE"

   Changed the second paragraph to read "The monitoring effort will span a 9-month period beginning on November 1, 1977 and terminating August 1, 1978".

We appreciate your approval of the Supplemental Agreement and look forward to sharing the result of the study with you.

Very truly yours,

Attachment

cc Glen L. Green
FHWA Division Office

E. S. Hunter
Technical Services Engineer

DES:dpy ja

8259 NE Union Ave-NE 82nd Ave Sec 197
Columbia River Hwy. in Portland
(Grad.,pave,bar.,sign & ill.) #8

A. A. 821 6-24-76
C.A 5783 8-6-76

moba media
sea 323 7558
dx 223 1677

HOV LANES -- BANFIELD

Channel 8 12/28/77 5:07

anchor
film of Banfield, cars, overpasses superimposed study results

After a lot of controversy and discontent at the start, the Banfield Freeway's High Occupancy Vehicle Lane project is now beginning its third year and a new evaluation report says there's been some improvement in freeway travel as the result of the HOV's but not as much as some people had originally expected.

The Banfield Freeway project was one of the first in the country to use the high occupancy vehicle, or diamond lanes. The purpose was to provide an incentive for car pools thus cutting down on the use of gasoline by setting up an express lane for car poolers and buses only. The Diamond lanes are now enforced during the rush hours onl They were originally effective twenty-four hours a day, but the public outcry forced the Oregon Transportation Department to change that.

A transportation report says that back in 1975 before the Diamond Lanes, one hundred and six car pools an hour traveled on the Banfiel during an average hour during the peak period. And now the number is over five hundred car pools an hour. Before the Diamond Lanes, according to the state study, fifty-five hundred people in forty-two hundred vehicles traveled the Banfield in an average peak hour. Now with the lanes more than ten thousand people and fifty-two hundred vehicles were counted.

That seems to show that the flow of traffic is quicker and more efficient on the freeway.

Bob Bothman

Well, I think the results are encouraging, and they're in the right direction. We are increasing the efficiency on the Banfield Freeway but frankly the move towards car pools and use of the bus is very slow.

anchor

Bob Bothman of the Oregon Transportation Department was one of the people who received a lot of heat when the project began but now the criticism has quieted down. He was expecting better results from th Diamond Land study but no one is talking about skuttling the project On the contrary it may be just a beginning of things to come.

Bothman

There are going to have to be some changes, some move towards trans the bus, car pools, in that your simply not going to be able to driv around by yourself in a car. There's just not enough freeway lanes for that.

anchor

So you're saying we just won't be able to drive?

Bothman

...I think...we're finding in these studies and these are being conducted throughout the United States on these...lanes that in general the conclusions are that people are not going to give up their singl occupant car until they absolutely have to.

anchor

And that point you think is coming.

Bothman

And I think that point will come some day. It'll come in the form that just won't be any freeway lanes for them to drive on. That's

2 - 2 - 2

Bothman, cont.

anchor
more film fom in-
side car in dia-
mind lane

j/003/2878

HOV LANES, ch.8, 12/28

one way, or cost of gas and availability of gas will cause it.

Bothman adds if the Diamond Lanes extended further than the eight
miles that they do now, the...probably be better. In the meantime
the Daimond Lane proponents believe that more and more people will
be taking advantage of those express lanes.

# # # #

STATE OF OREGON

INTEROFFICE MEMO

E. HUNTER 8

TO: R.N. Bothman
Metropolitan Administrator

DATE: December 22, 1977

FROM: Max J. Klotz
Technical Services Engineer

SUBJECT: Banfield HOV Lane
TAC poll

As requested, on December 20 and 21 I called the members of the Banfield HOV lane TAC and polled them as to their vote on the issue of allowing taxicabs without fares the use of the HOV lanes. As you remember, I had discussed this at the last TAC meeting and told the members at that time that I would be asking for a vote from each of them on this issue. This was to allow each jurisdiction time to formulate their opinion.

The vote was as follows: 3 YES 3 NO 1 Neutral
This tally does not include ODOT. Judging from the Transportation Commission's comments and their request that the TAC address this issue, you and I decided that ODOT's vote is YES. Therefore, the committee approves the legal use of the HOV lane by taxicabs whether carrying a fare or not.

I will bring this up at the TAC meeting January 10, for further discussion.

js

cc: TAC members
Jerry Street

RECEIVED
TECHNICAL SERVICES
DEC 27 '77
REFER TO
FROM

81.125.1307

STATE OF OREGO

INTERO CE MEMO

TO: F.B. Klaboe
Chief of Operations

DATE: December 21, 1977

FROM: Max J. Klotz
Technical Services Engineer

SUBJECT: Banfield HOV Lane
Demonstration Project
Rough Draft Final Report

Our contract with FHWA covering part of the monitoring costs requires submission of a final report describing the project, its operation, the monitoring effort and our findings.

Attached for your information and comment is a copy of our preliminary draft in rough form. For ease of assembly, this rough draft was stapled together in two sections; 1-the report itself and 2-the appendix. In an effort to save time and money, no attempt has been made to make very elaborate copies for this review purpose.

Copies are being furnished to the project TAC members for their review and response at the next committee meeting on Jan. 10, 1978. If you have any comments, we would appreciate having them by that date.

js

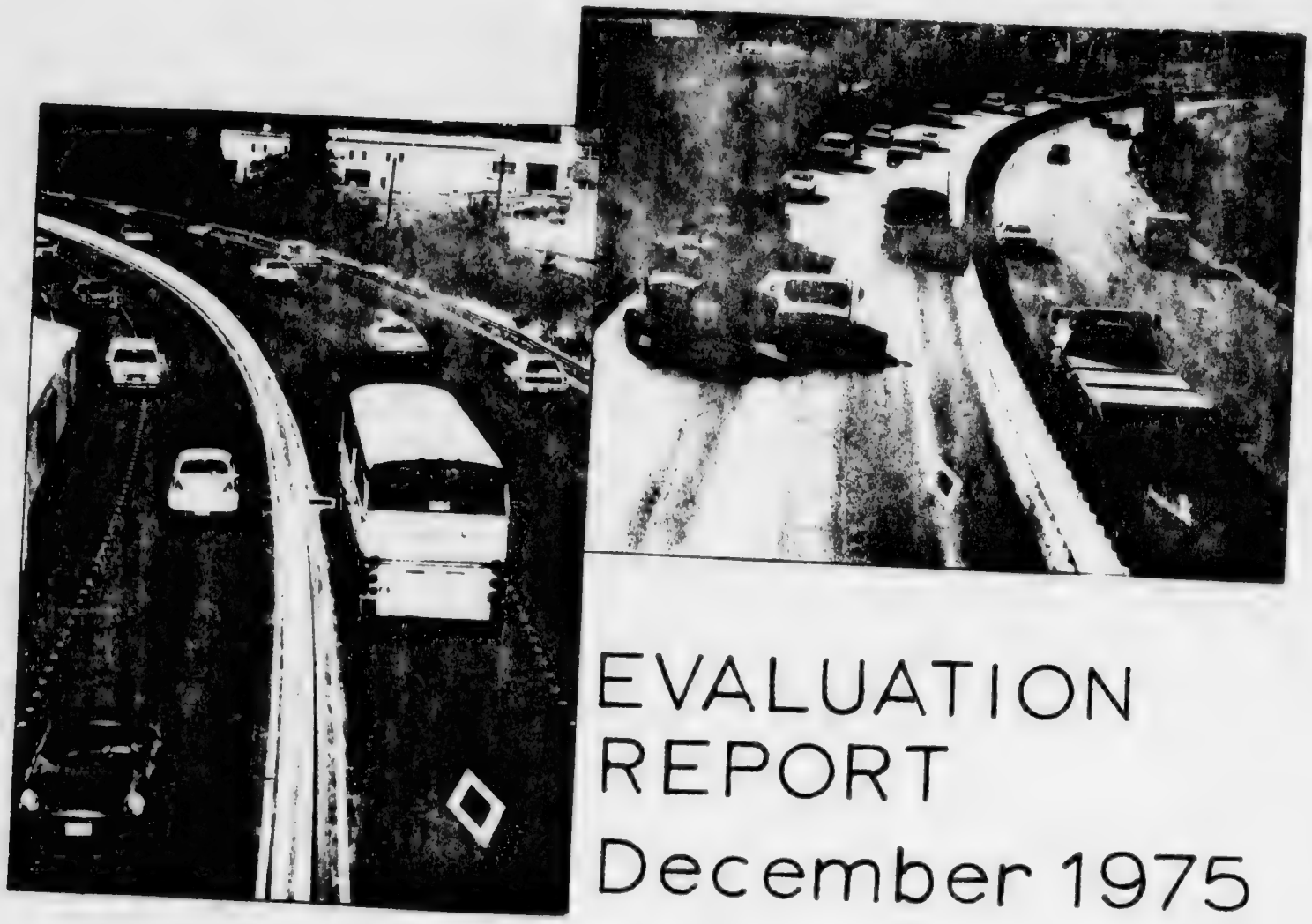
cc: E.S. Hunter (with enclosure)
R.N. Bothman (with enclosure)
C.T. Christianson (with enclosure)
Enclosures

RECEIVED
TECHNICAL SERVICES
DEC 22 77
REFER TO
FOR

BANFIELD FREEWAY

(PORTLAND, OREGON)

HIGH OCCUPANCY VEHICLE LANES



EVALUATION REPORT

December 1975

Thru

June 1977

OREGON DEPARTMENT
OF TRANSPORTATION

Metropolitan Branch
December 1977

BANFIELD FREEWAY HOV LANE PROJECT
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ABBREVIATIONS COMMONLY USED IN THIS REPORT

ALTEF.....Altitude Adjusted Emission Factors

awd.....Average weekday traffic

CBD.....Central Business District

CO.....Carbon monoxide

DEQ.....Department (Oregon) of Environmental Quality

dvm.....Daily vehicle miles

HC.....Hydrocarbons

HOV.....High Occupancy Vehicle

NO_2.....Nitrogen Dioxide

NO_x.....Nitrogen-Oxygen compounds

O_3.....Ozone

ODOT.....Oregon Department of Transportation

OTC.....Oregon Transportation Commission

Pb.....Lead

pht.....Person hours of travel

pph.....Persons per hour

SO_2.....Sulfur Dioxide

SO_x.....Sulfur-Oxygen compounds

TAC.....Technical Advisory Committee

Tri-Met.....Tri-County Metropolitan Transit District of Oregon

TSP.....Total Suspended Particulate

vht.....Vehicle hours of travel

vmt.....Vehicle miles traveled

vph.....Vehicles per hour

METRIC CONVERSION FACTORS

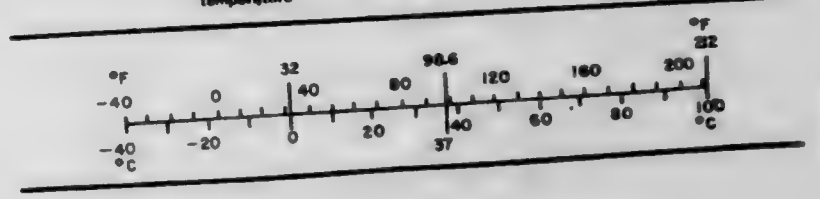
Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
	AREA			
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
	MASS (weight)			
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
	VOLUME			
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
	TEMPERATURE (exact)			
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in = 2.54 exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
	AREA			
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
	MASS (weight)			
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
	VOLUME			
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
	TEMPERATURE (exact)			
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



1.0 OBJECTIVES AND PURPOSE

A significant problem facing urban transportation planning is the mid-term forecast of the need to provide relief for peak hour congestion. This problem is characterized by a high volume of traffic which exists for a relatively short period of time, usually two to three hours in both the morning and evening commuter traffic periods. These peak conditions frequently result in unacceptable low levels of service and unreliable travel time. Such conditions create economic hardship in the form of increased air pollution, greater fuel consumption, and reduced productivity for the driver. The problem has resulted in many attempts to provide relief, ranging from the construction of new facilities, to the more recent attempts to manage the present facilities. One of the most promising techniques is the use of computer simulation models.

[illegible]

1.1 [illegible]

[illegible]

1. [illegible]

2. [illegible]

3. [illegible]

4. [illegible]

5. [illegible]

1.0 OBJECTIVES AND FINDINGS

A significant problem facing urban transportation planning in the mid-1970s focuses on the need to provide relief for peak hour congestion. This problem is characterized by a high volume to capacity ratio which exists for a relatively short period of time; usually two to three hours in both the morning and evening commuter traffic periods. These peak conditions frequently result in unacceptably low levels of service and undesirable increases in travel time. Such concentrated congestion, while relatively short lived, creates externalities in the form of increased air pollution, greater fuel consumption, and heightened psychological stress for the driver. The problem was responded to in the past through added lanes on existing facilities, or enlarging the traffic network by constructing new roadways. For a variety of reasons involving inordinate costs, primary and secondary land use impacts, and other environmental concerns, this response is no longer as acceptable, particularly since the additional capacity is required for only a small portion of the operational day. An alternative approach to this problem is to use the existing facilities in a more efficient manner. The High Occupancy Vehicle (HOV) Lane is an experimental effort to do just that.

The Banfield Freeway HOV lanes in Portland, Oregon became operational on 15 December 1975 and remain in operation today. This report will evaluate the effectiveness of the HOV Lane project from its inception to 1 July 1977.

1.1 Objectives of the HOV Lane Project

Traffic congestion on the Banfield Freeway had reached critical levels requiring immediate improvement. A low cost, interim project was needed to allow time for a major corridor study to be accomplished and long term transportation solutions to be identified. With this in mind, the following objectives were developed:

a. Assist in implementing the State of Oregon Clean Air Act Implementation Plan, Portland Transportation Control Strategy, by increasing the person per vehicle ratio on the Banfield.

b. Provide for carpooling and bus-use incentives in the corridor through use of HOV Lanes.

c. Reduce traffic congestion on the Banfield Freeway and adjacent arterial streets.

d. Provide a safe transportation facility by improving the roadway surface.

e. Provide a time and fuel savings to the traveler.

f. Provide an interim, low-cost improvement to the Banfield as an expedient, until such time as a major revision can be accomplished.

1.2 Summary of Findings

The study evaluates an 18½ month period of HOV lane operation, from the opening of the preferential lanes on 15 December 1975 to June 1977. In summary, the findings show the following:

a. Traffic characteristics (Refer to Section 3.0)

(1) The 1975 average weekday traffic (AWD) on the Banfield was 105,800. During the previous ten year period, the AWD showed an increase of approximately two percent per year. Under normal growth patterns without the HOV lanes, traffic would have increased to 110,000 AWD by 1977.

(2) The AWD on the Banfield is 2,100 vehicles or two percent over the normal anticipated without the HOV lanes. This increase is a result of traffic being attracted from adjacent east-west arterial streets.

(3) The AWD on the three main east-west arterial streets (Sandy Blvd., Burnside St. and Broadway St.) in the Banfield corridor has decreased by three percent.

(4) The average AM peak hour traffic on the Banfield has increased by 125 vehicles and 470 people over the normal anticipated without the HOV lanes. The westbound HOV lane is carrying nearly 20 percent of the people in less than five percent of the vehicles.

(5) The average AM peak hour carrying capacity of the freeway, based on percent occupancy rates, is 5,500 people in 4,700 vehicles without the HOV lane, and 10,400 people in 5,200 vehicles with the HOV lane.

(6) The average AM peak hour vehicle occupancy rate (excluding buses) has increased from 1,217 persons per vehicle in 1975 to 1,262 persons per vehicle in 1977. This increase is greater than that shown for two other similar freeways serving the Portland CBD which do not have HOV lanes.

(7) An estimated 202,000 gallons of fuel are saved annually as a result of the HOV lanes, with a monetary savings of nearly $380,000 for users of the preferential lane.

(8) The HOV lanes result in an annual travel time savings of 70,500 person hours and a savings in travel time costs of $262,000.

b. Modal Shifts (Refer to Section 4.0)

(1) The HOV lanes enable express buses ("Banfield Flyers") to be competetive with single occupant vehicles, providing an incentive for commuters to use public transit as well as carpools.

(2) Banfield Flyer express ridership has increased from 300

persons per day in January 1976 to 633 persons per day in June 1977.

(3) During peak hours, the number of carpools on the Banfield have increased from 106 in April 1975 to 518 in June 1977.

c. Enforcement of the HOV lanes (Refer to Section 5.0)

The State Police have been able to overcome the initial enforcement problems and are keeping the violation rate below an acceptable 20 percent. The three month period from April to July 1977 had an HOV lane violation rate of 12 percent. This rate is less than one percent of the traffic in all lanes.

d. Safety (Refer to Section 6.0)

The accident rate per million miles traveled on the Banfield was 0.8 for the first half of 1977. This compares with the low of 0.75 for 1974, and is below the normal rate experienced prior to the HOV lanes.

e. Air Quality (Refer to Section 7.0)

A peak hour analysis of pollutant emissions resulting from the Banfield Freeway during HOV operation showed a two percent increase in CO and HC emissions over what would have been anticipated from this facility without the HOV lanes. However, this increase corresponded to a five percent increase in traffic volumes and a ten percent increase in total vehicle occupants. Therefore, the HOV lanes move more people with less pollution emitted on a per person basis.

2.0 BACKGROUND AND DESCRIPTION OF THE PROJECT

The Banfield Freeway serves east Multnomah County as a primary commuter route to and from downtown Portland and the north Portland business/industrial complex. It also serves as the main east-west interstate route through Portland to eastern destinations thereby attracting considerable truck and tourist traffic. The following pages (Figure) contain detailed maps of the Banfield Freeway. The maps are arranged so the reader is traveling from west to east on the freeway. Some of the major features to note are as follows:

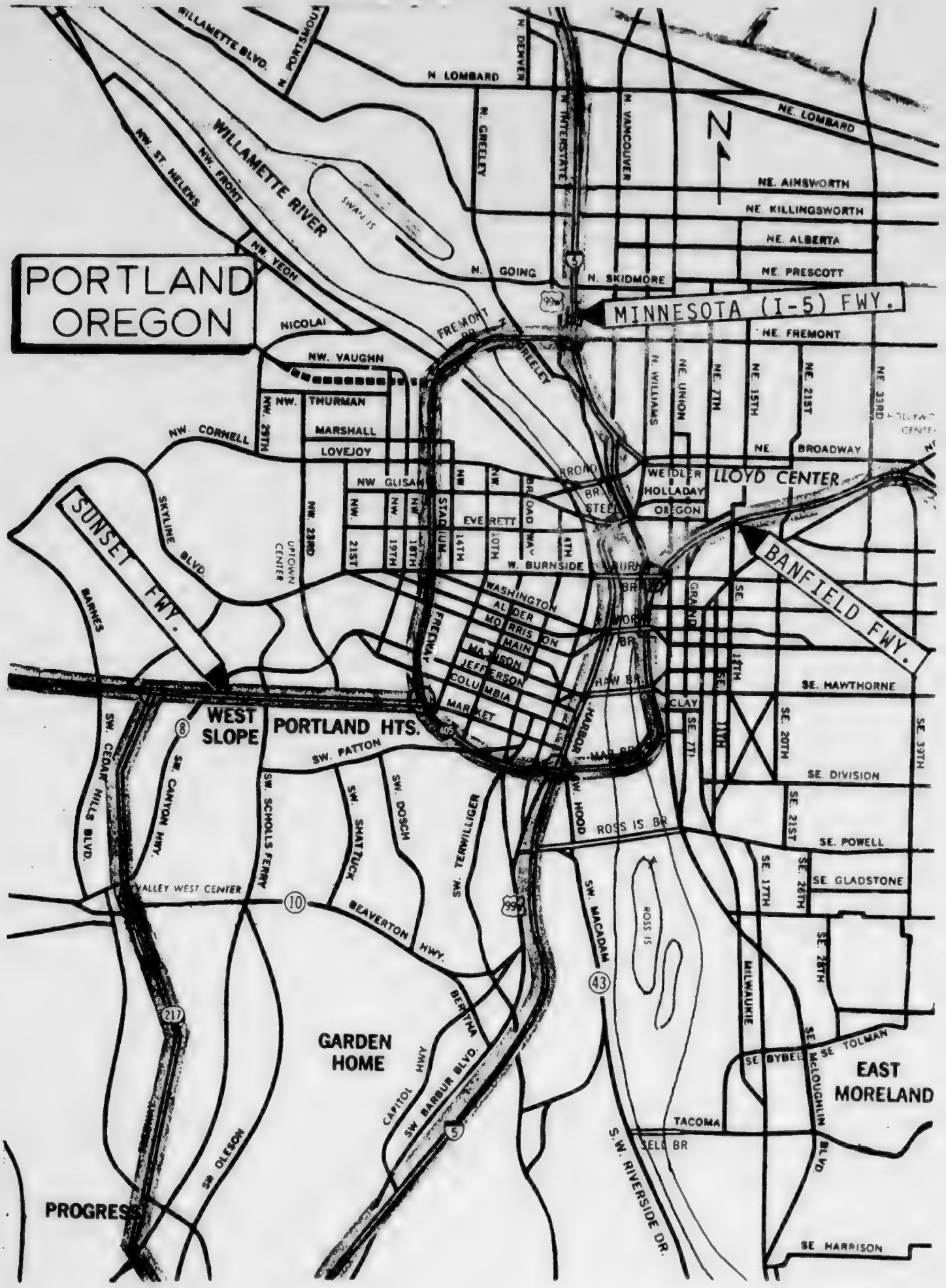
Page	Feature
	General map of the Portland area showing the Sunset, Minnesota (I-5) and Banfield Freeways.
	Portland's Central Business District, Willamette River, Memorial Coliseum, Minnesota (I-5) Freeway.
	Lloyd Center (a large shopping center/commerical area), 19th & Multnomah location of the environmental trailer used in the air quality studies.
	End of the Westbound HOV Lanes, 21st Avenue automatic traffic counter.
	Beginning of the Eastbound HOV Lanes.
	Full development of the HOV Lanes.
	End of the Eastbound HOV Lanes, beginning of the Westbound HOV Lanes, 82nd Avenue exit to the Portland International Airport.
	Photo looking east towards 82nd Avenue.
	Photo looking east from 60th Avenue.

NOTE: Also located on the maps are the air quality monitoring sites used in the Banfield air quality study.

◐ Carbon Monoxide ⬡ Lead ◪ Environmental Trailer

□ Nitrogen Oxides ● Meteorological Tower

FIGURE 1


PORTLAND OREGON
WILLAMETTE RIVER
WILLAMETTE BLVD.
N. PORTSMOUTH
N LOMBARD
N. DENVER
N. GREELEY
N. INTERSTATE
N. VANCOUVER
NE. LOMBARD
NE. AINSWORTH
NE. KILLINGSWORTH
NE. ALBERTA
NE. PRESCOTT
NW. ST. HELENS
NW. FRONT
NW. YEON
SWAN IS
N. GOING
N. SKIDMORE
MINNESOTA (I-5) FWY.
NE. FREMONT
NICOLAI
FREMONT BR.
GREELEY
NW. VAUGHN
N. WILLIAMS
NE. UNION
NE. 7TH
NE. 15TH
NE. 21ST
NE. 33RD
NW. THURMAN
NW. 25TH
MARSHALL
NW. CORNELL
LOVEJOY
NE. BROADWAY
BROADWAY BR.
WEIDLER
HOLLADAY
OREGON
LLOYD CENTER
NW GLISAN
STADIUM
EVERETT
W. BURNSIDE
BURNSIDE BR.
BANFIELD FWY.
SUNSET FWY.
SKYLINE BLVD.
NW. 23RD
UPTOWN CENTER
BARNES
WASHINGTON
ALDER
MORRISON
MAIN
MADISON
JEFFERSON
COLUMBIA
MARKET
FREEWAY
HAW BR.
GRAND
MARQUAM BR.
SE. 11TH
SE. HAWTHORNE
CLAY
SE. 7TH
SE. 20TH
SE. 39TH
SE. DIVISION
SE. 21ST
SE. POWELL
SW. PATTON
WEST SLOPE
PORTLAND HTS.
SW. CEDAR HILLS BLVD.
SW. CANYON HWY.
SW. SCHOLLS FERRY
SW. SHATTUCK
SW. DOSCH
SW. TERWILLIGER
SW. HOOD
ROSS IS. BR.
SE. 17TH
SE. 26TH
SE. GLADSTONE
VALLEY WEST CENTER
BEAVERTON HWY.
SW. MACADAM
ROSS IS
SE. 28TH
MILWAUKIE
BERTHA
CAPITOL HWY
SW. BARBUR BLVD.
GARDEN HOME
SE. BYBEE
SE. TOLMAN
SE. McLOUGHLIN BLVD.
EAST MORELAND
TACOMA
SELLWOOD BR.
S.W. RIVERSIDE DR.
SW. OLESON
PROGRESS
SE. HARRISON

BANFIELD FREEWAY: N.E. UNION AVE. TO N.E. 82ND AVE. SECTION

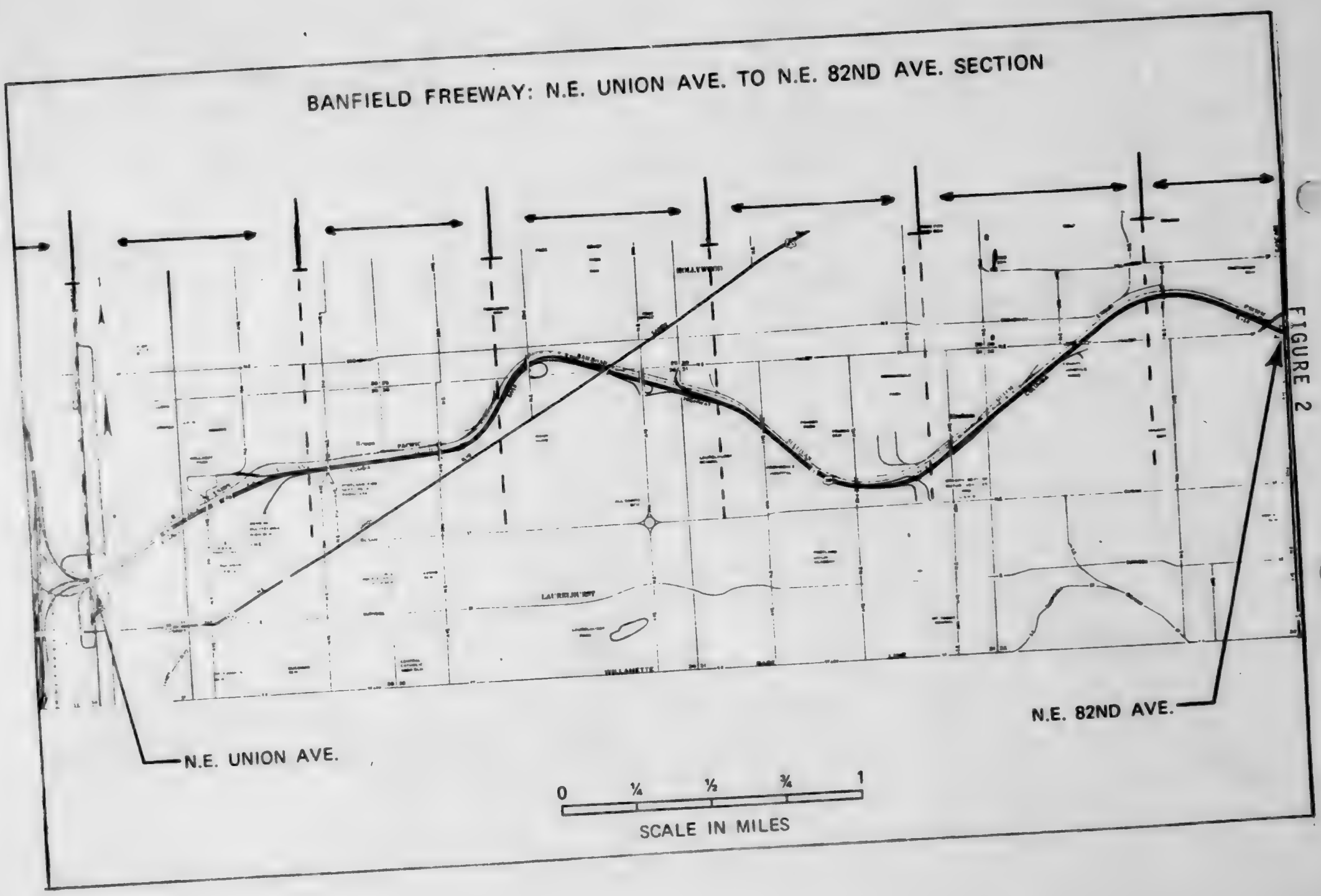
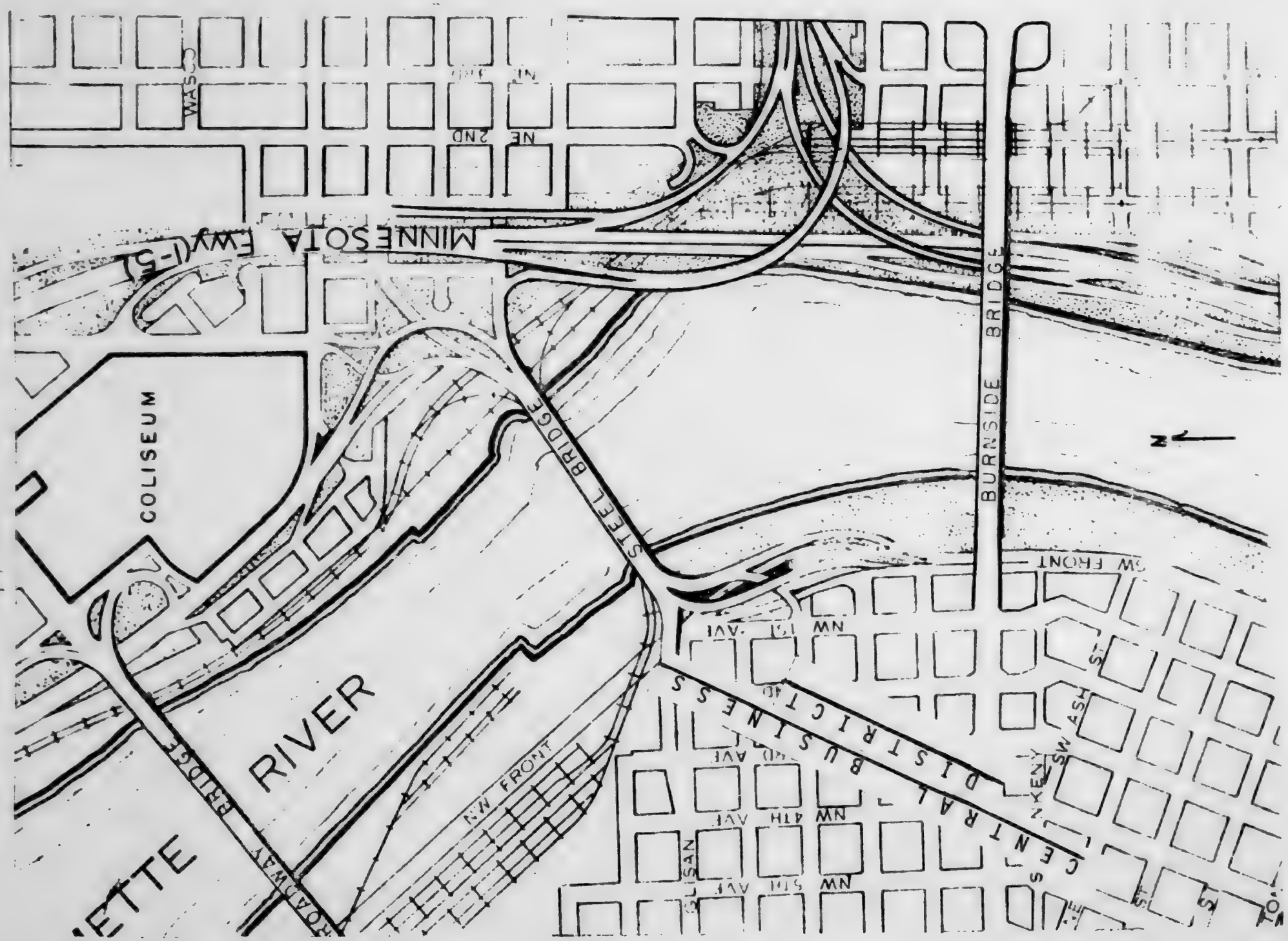
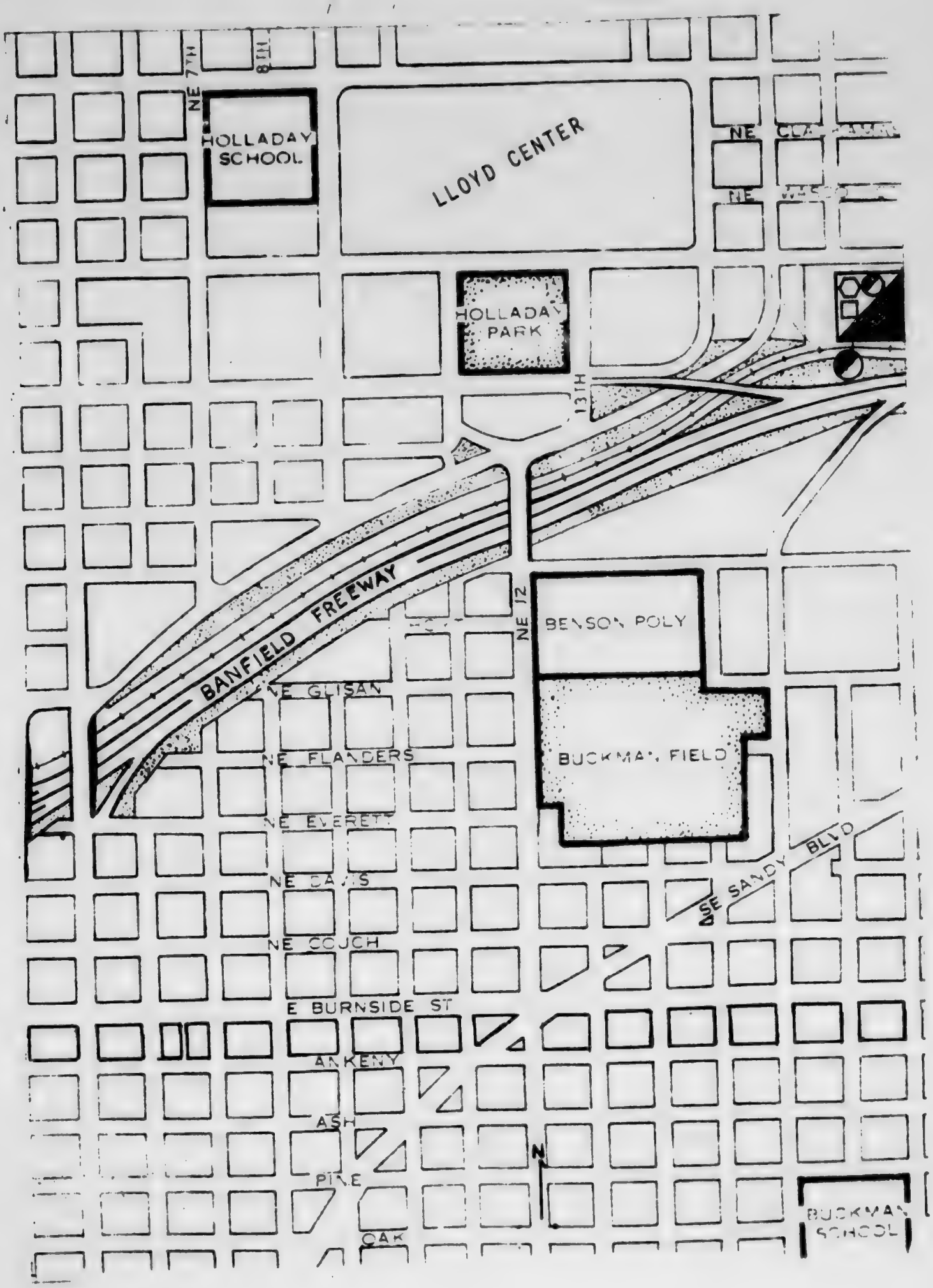
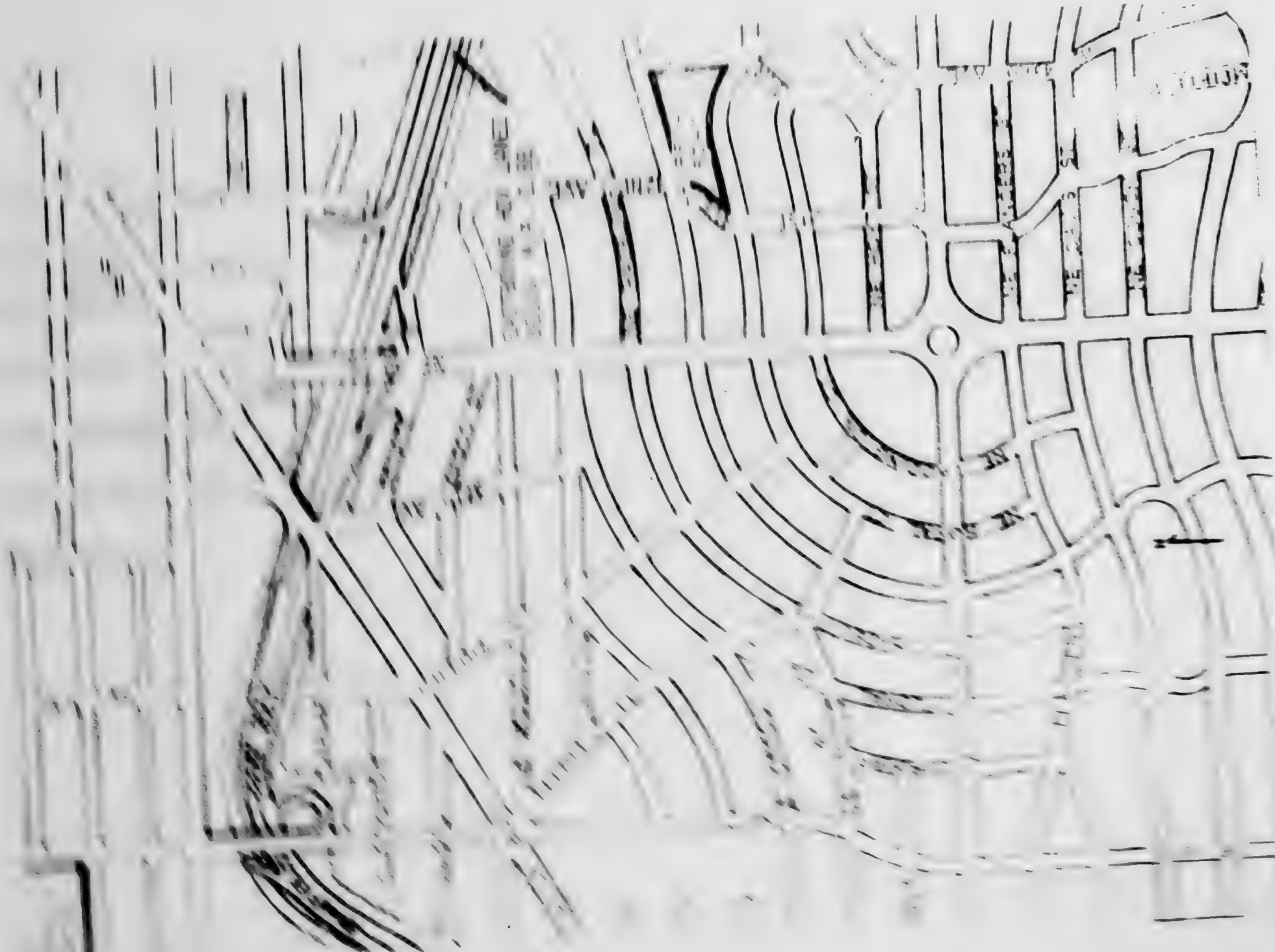


FIGURE 2

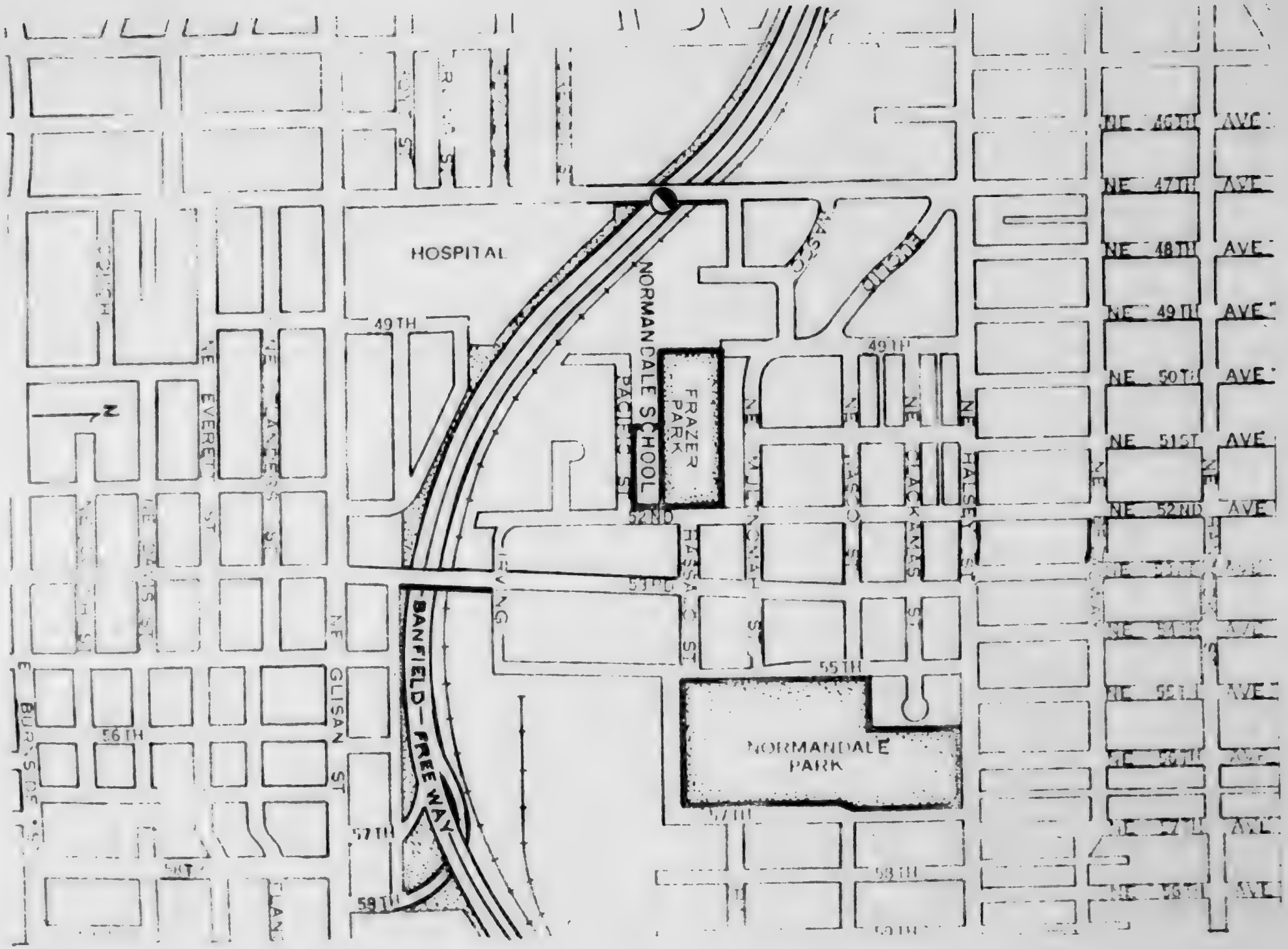

MINNESOTA
I-5
NE 2ND
COLISEUM
RIVER
BRIDGE
STEEL BRIDGE
BURNSIDE BRIDGE
NW FRONT
CENTRAL BUSINESS DISTRICT
NW 4TH AVE
NW 5TH AVE
N

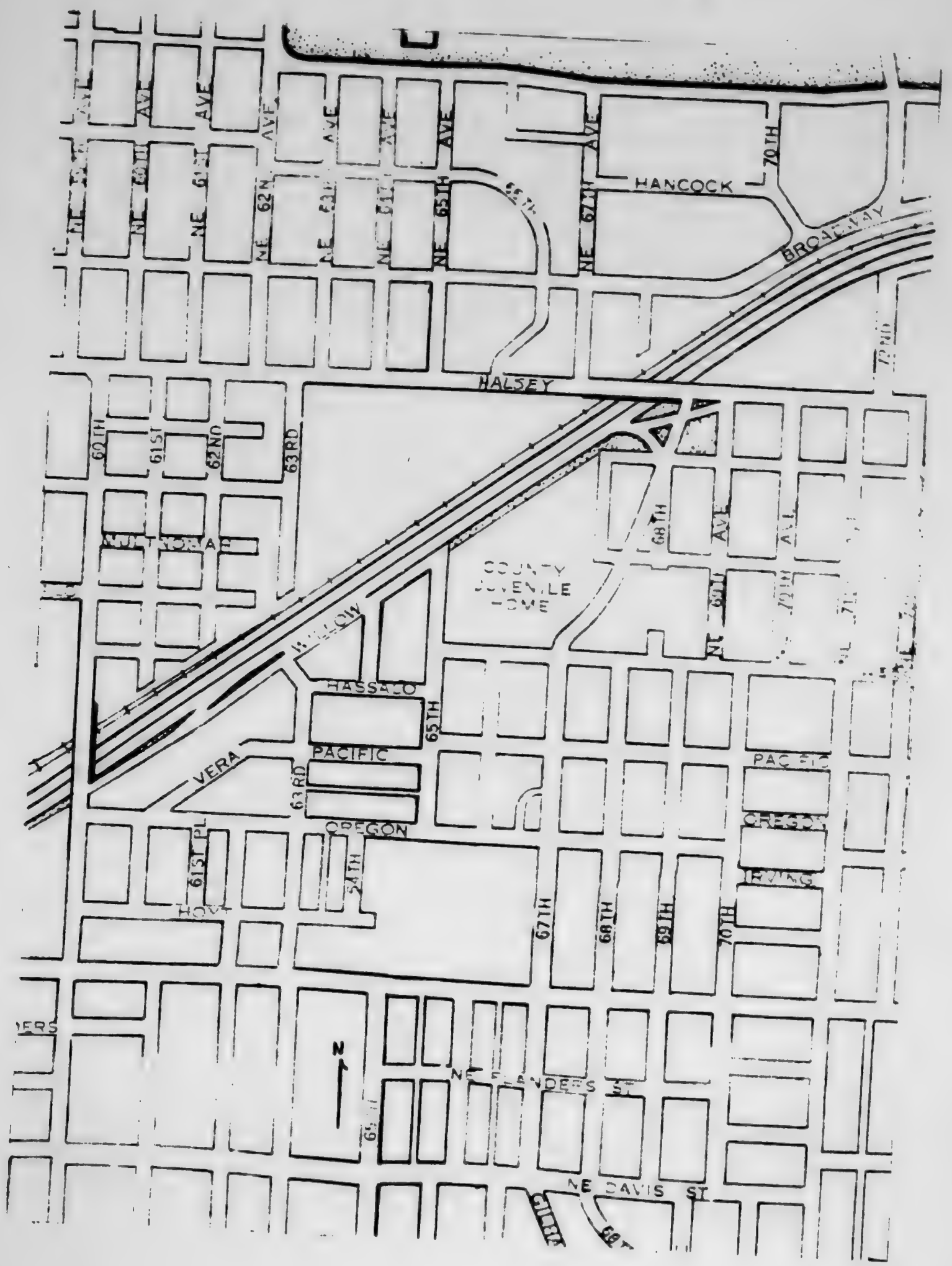

NE 7TH
NE 8TH
HOLLADAY SCHOOL
LLOYD CENTER
NE CLACKAMAS
NE WASCO
HOLLADAY PARK
13TH
BANFIELD FREEWAY
NE 12
BENSON POLY
BUCKMAN FIELD
NE GLISAN
NE FLANDERS
NE EVERETT
NE DAVIS
NE COUCH
SE SANDY BLVD
E BURNSIDE ST
ANKENY
ASH
PINE
OAK
N
BUCKMAN SCHOOL

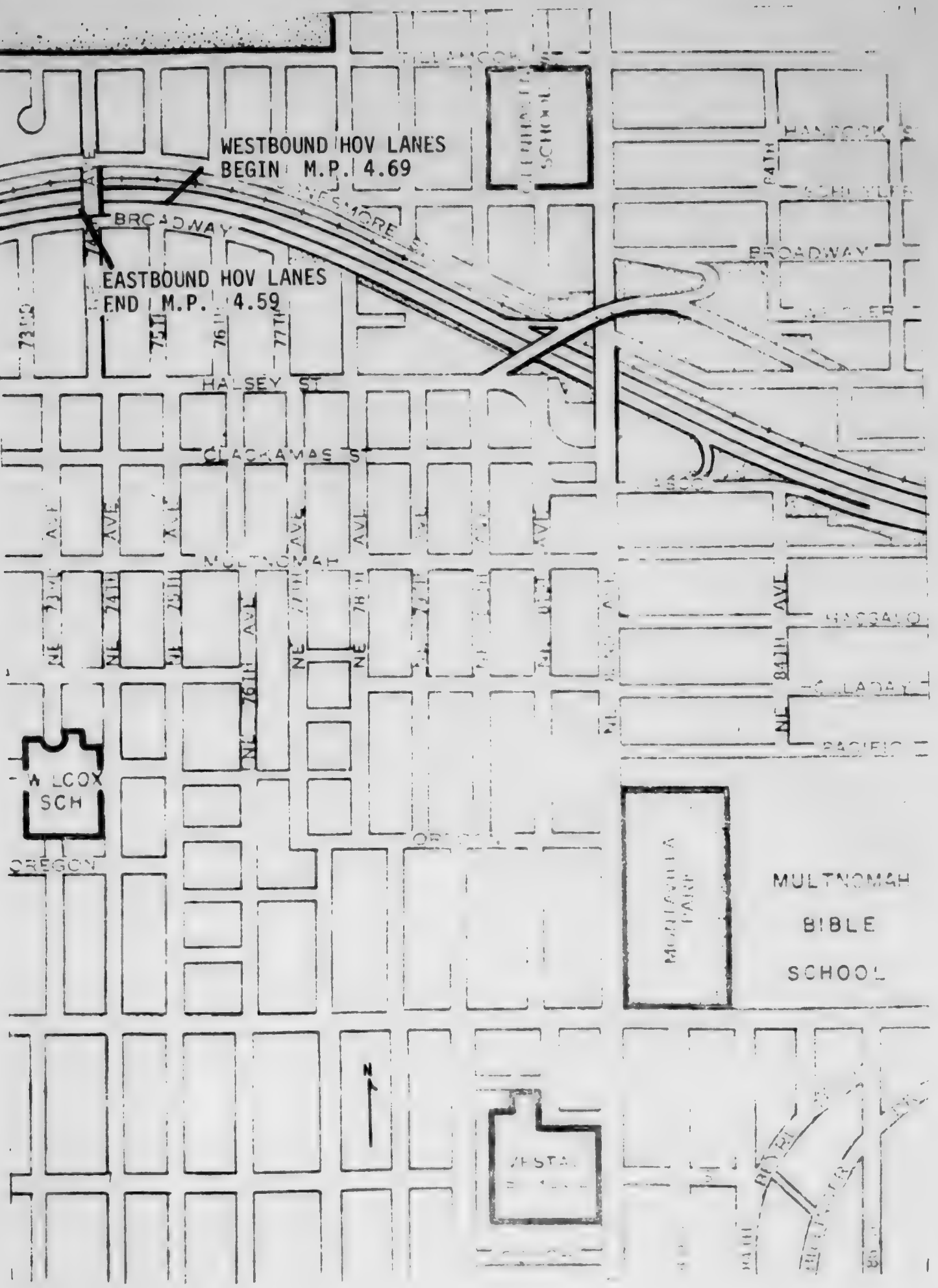
NE BROADWAY ST
NE HALSEY
29TH
21ST AVE.
NE 28TH
WESTBOUND HOV LANES
END M.P. 1.36
MONROE
HIGH
SCHOOL
N

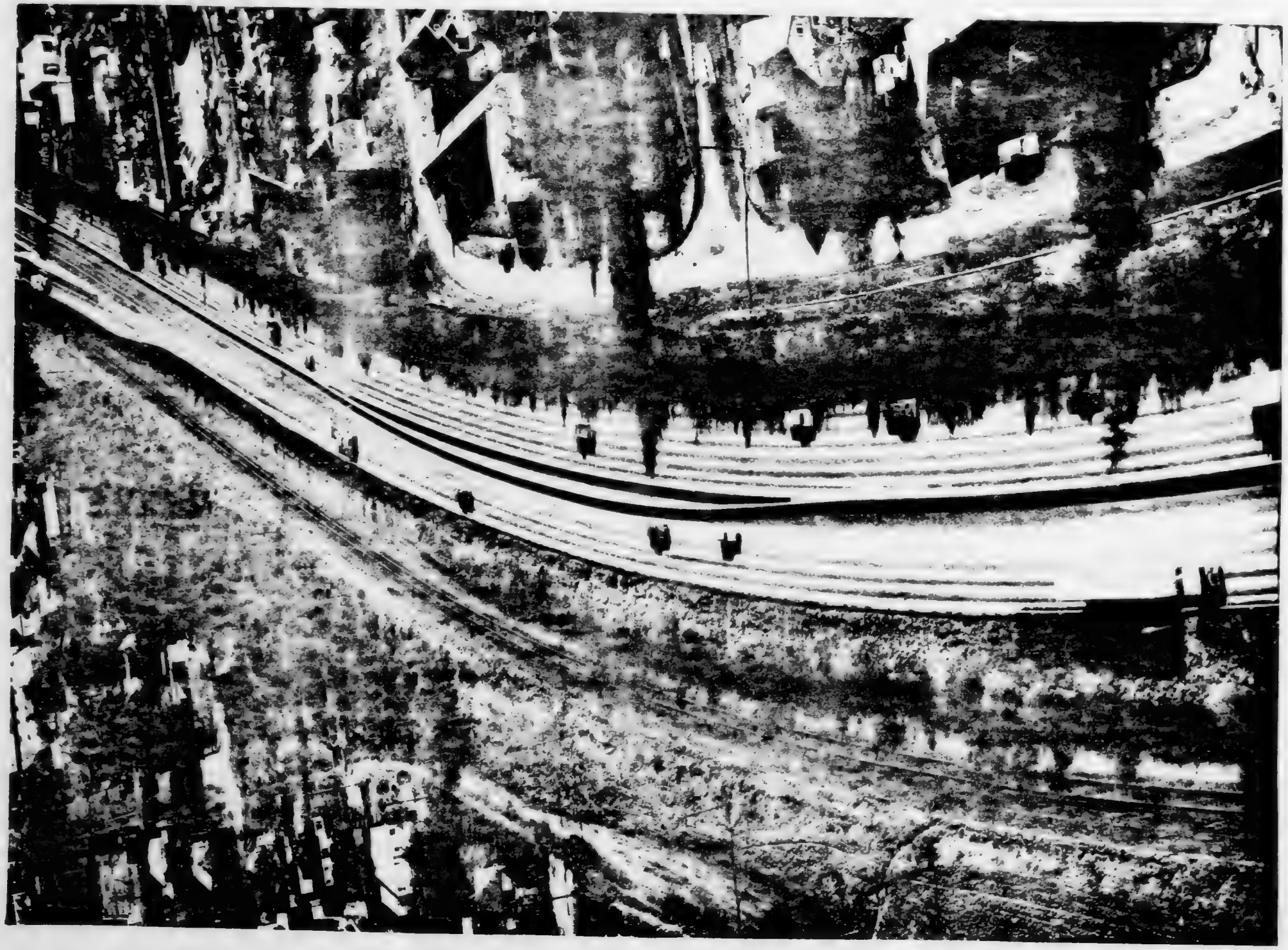


FREE WAY
HALSEY
CLACKAMAS
WASCO
SANDY BLVD
NE MULTNOMAH
HASSALO
NE 33RD
NE 32ND
NE 39TH
NE 40TH
NE 41ST
NE 42ND
SENATE
WASCO ST
NE HOYT ST
NE FLANDERS ST
NE GLISAN
NE COUCH ST
EASTBOUND HOV LANES
BEGIN M.P. 2.88
N


HOSPITAL
49TH
NORMANDALE SCHOOL
FRAZER PARK
NORMANDALE PARK
BANFIELD—FREEWAY
52ND
53RD
55TH
56TH
57TH
58TH
59TH
NE 46TH AVE
NE 47TH AVE
NE 48TH AVE
NE 49TH AVE
NE 50TH AVE
NE 51ST AVE
NE 52ND AVE
EVERETT ST
GLISAN ST
BURNSIDE
HALSEY ST
N


HANCOCK
BROADWAY
HALSEY
NE 60TH AVE
NE 61ST AVE
NE 62ND AVE
NE 63RD AVE
NE 64TH AVE
NE 65TH AVE
NE 67TH AVE
NE 70TH
60TH
61ST
62ND
63RD
COUNTY JUVENILE HOME
68TH AVE
HASSALO
PACIFIC
VERA
63RD
65TH
OREGON
61ST PL
24TH
HOYT
67TH
68TH
69TH
70TH
IRVING
N
NE FLANDERS ST
NE DAVIS ST


WESTBOUND HOV LANES
BEGIN M.P. 4.69
EASTBOUND HOV LANES
END M.P. 4.59
BROADWAY
HALSEY ST
CLACKAMAS ST
OREGON
MULTNOMAH
BIBLE
SCHOOL
N



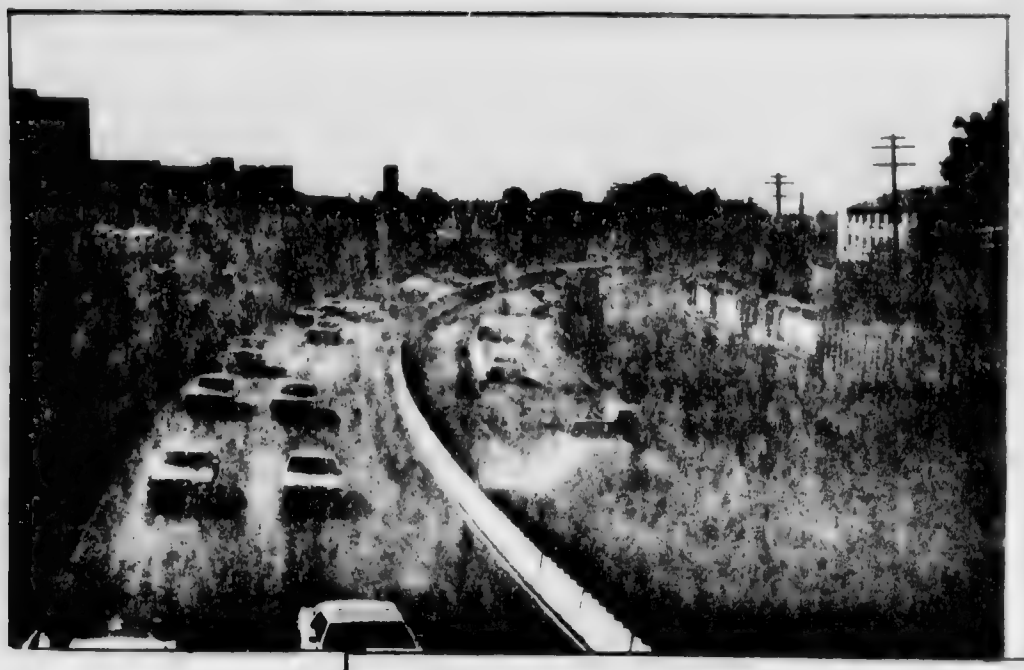
PRELIMINARY

2.1. History of the Banfield Freeway

Construction of the Banfield Freeway began in 1951 to help relieve congestion on city arterial streets and to replace the US 30 Sandy Boulevard route as the main interstate route east out of Portland. The four lane section east of 39th Avenue was completed and opened to traffic in 1955. In 1956, it was made a part of the new Federal Interstate Highway System and designated Interstate Route 80N. The six lane section from N.E. Third Avenue to 39th Avenue was completed and opened in 1958. The Banfield was connected to the Minnesota (I-5) Freeway in 1964. Since that time there have been no major revisions to the freeway until the HOV Lane demonstration project was instituted in 1975.

2.1.1. The Setting

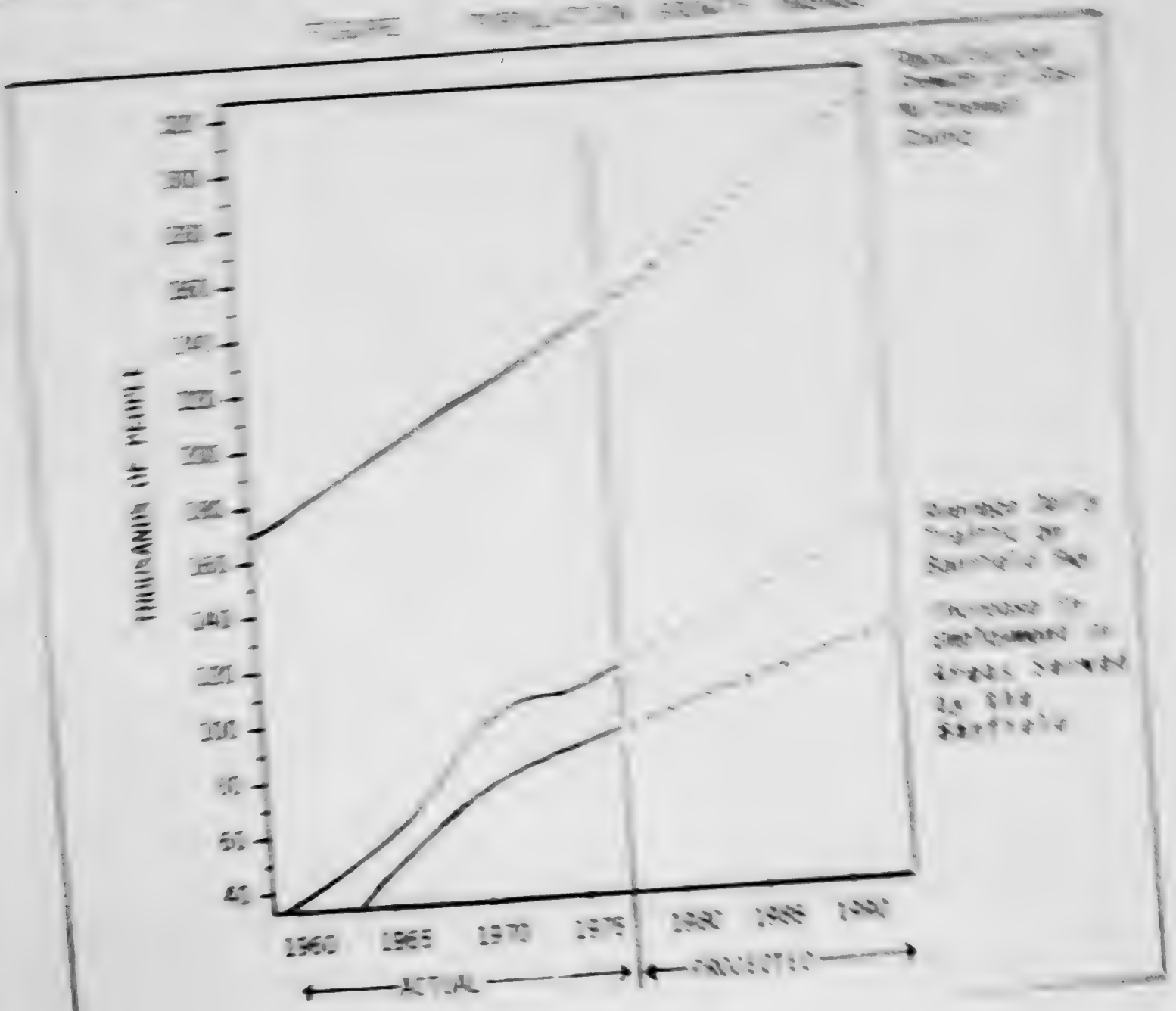
The general topography of the Banfield Freeway consists of gently rolling terraces which slope westerly to the Willamette River. A group of small volcanic intrusions protrude above the surrounding terraces. Those nearest the Banfield include Rocky Butte, near 82nd Avenue and Mt. Tabor, a short distance south. Sullivan Gulch (the freeway corridor) is a natural drainage depression that runs in a meandering fashion from near Rocky Butte west to the Willamette River. The gulch, which begins at grade in the easterly portion of the freeway, gradually increases in relief in a westerly direction, where it attains a twenty-to-thirty foot depth below the adjacent terrain. It has long been utilized as a natural, gentle-grade transportation route from the Willamette River east to the Columbia River floodplain. Sullivan Gulch passes through some of the most densely developed residential, commerical and industrial areas of northeast Portland. The freeway passes within several blocks of the Lloyd Center which is a major commerical development that employes almost 8,000 people in a 110 store shopping area and three highrise office buildings. The Banfield Freeway and the Union Pacific Railroad are side by side down the center of Sullivan Gulch. The freeway occupies the southern side of the gulch while the railroad mainline tracks occupy the northern side. The freeway grade is approximately 10 to 15 feet higher than the railroad grade throughout most of the corridor. Page contains several views of the Banfield Corridor showing the freeway and the railroad that occupy Sullivan Gulch.



Looking west from 53rd Avenue over-crossing. HOV Lane is in oper-ation.

Looking west from 60th Avenue over-crossing.

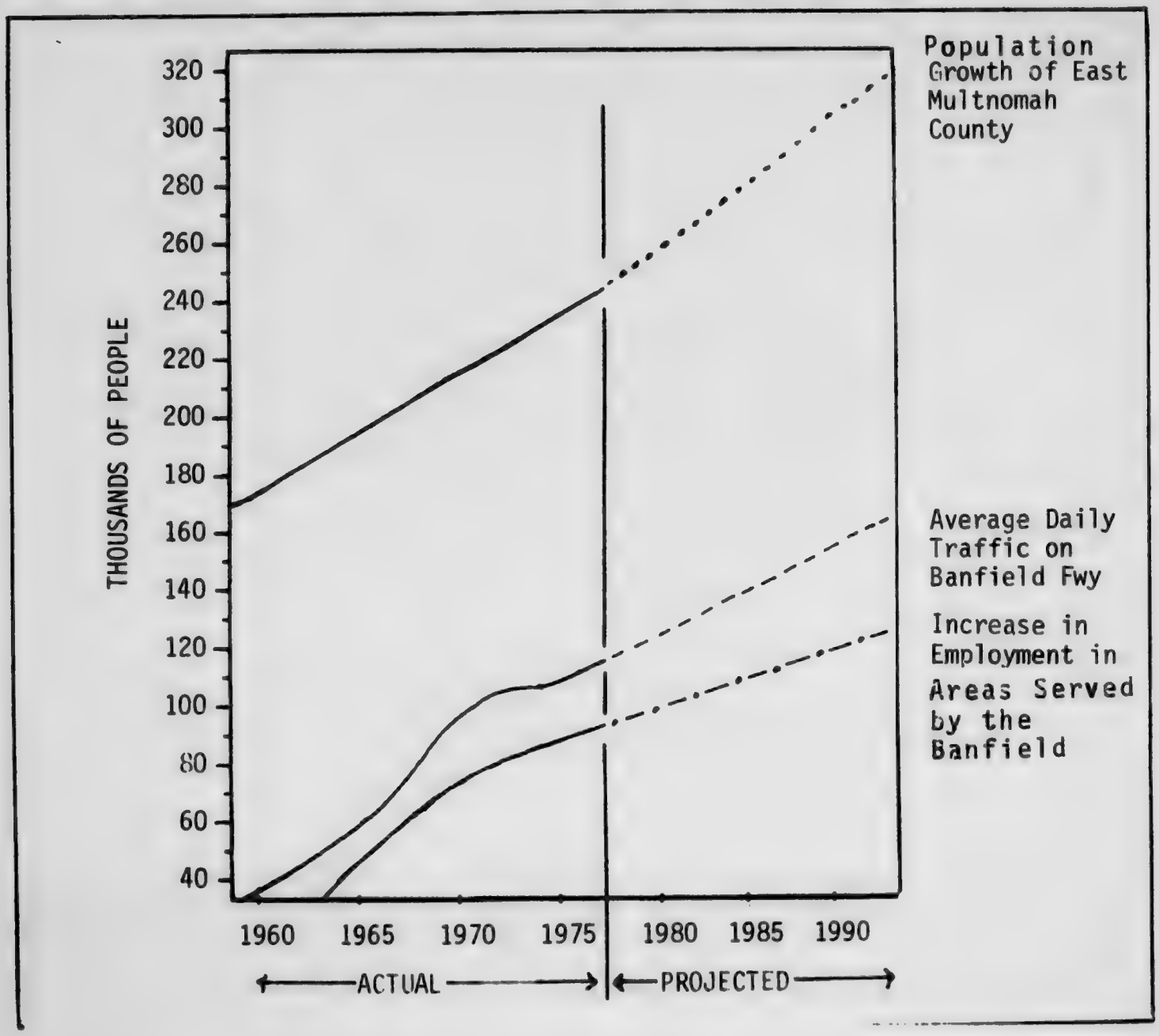
View from the 60th Avenue over-crossing looking east. Emergency parking bay can be seen in the center of the photo.


1960
1965
1970
1975
ACTUAL

2.1.2 The Problem

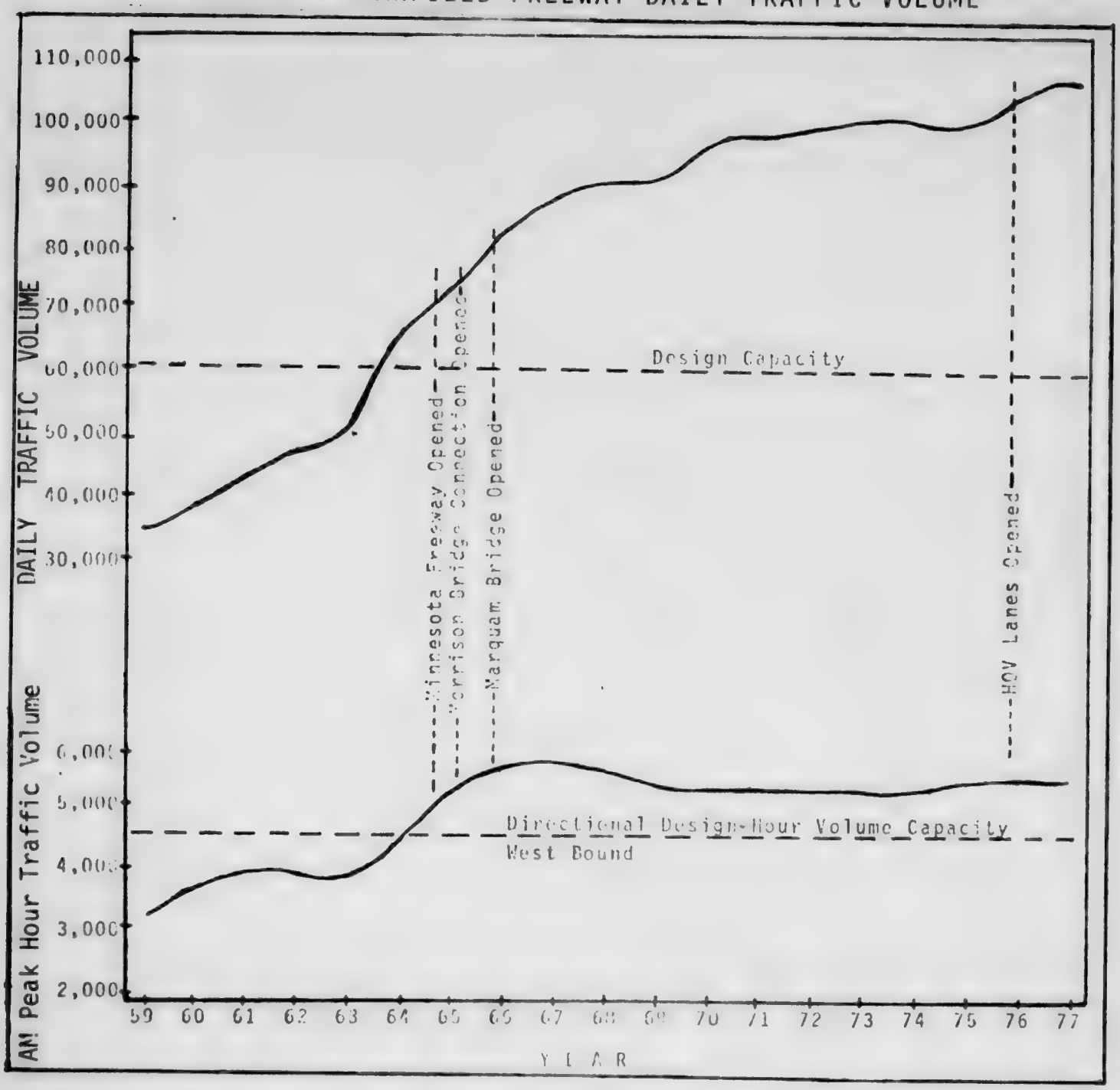
Since construction, the Banfield Freeway has become the primary commuter route between the east Multnomah County areas and the Portland CBD. During the period between 1960 and 1975, the population of east Multnomah County increased from 175,000 to 235,000. The population is projected to further increase to 302,000 by the year 1990. A similar relative population increase is projected for the four main employment areas served by the Banfield; the Portland CBD, the N.W. Industrial Area, Lloyd Center commercial area, and Swan Island Industrial Park. The number of employees is projected to increase from 88,000 in 1975 to 115,000 in 1990 (Figure). A further discussion of population and employment trends is found in Appendix E.

FIGURE 6 POPULATION GROWTH TRENDS



Between 1960 and 1970, the Average Weekday Traffic (AWD) on the Banfield Freeway has increased from 40,000 to 100,000 vehicles.[1] The design capacity of the Freeway was 60,000 vehicles per day. After a leveling off during the fuel boycott in 1973, the Freeway has continued to increase in the number of vehicles per day. Individual peak days in the latter half of 1974 registered volumes in excess of 115,000 vehicles per day. The 115,000 vehicle total is in contrast to the approximately 26,000 vehicles per day in 1956 (Figure 7). The Banfield had become the most heavily traveled

FIGURE 7 BANFIELD FREEWAY DAILY TRAFFIC VOLUME



1. BASED ON TRAFFIC COUNTS TAKEN AT 21ST. AVENUE

section of road in the state of Oregon. It was expected that the Banfield and Mt. Hood Freeway would increase to 2 percent per year, reaching 138,000 by 1981. Without capacity improvements, a complete breakdown in the operation of both the Banfield and the adjacent east-west arterials would have occurred.

(Table 1).

A more immediate problem was accommodating the peak period volumes on the Banfield. Since 1967, the peak hour volumes have stabilized at a number varying between 1,500 to 1,700 vehicles per lane per hour, while the length of the peak periods and the lane volumes continued to increase. This is an indication that the lane volumes had reached design capacity and was borne out by the growing numbers and earlier peak periods in which the freeway operated at levels of service varying from poorer (F) to unstable (E) flow. The original design capacity of 1,500 vehicles per lane per hour had been met in 1967 and the freeway was responding to increased traffic loads through reduced levels of services and increasingly longer peak periods.

The locations of the Banfield's critical traffic flow areas are west of 82nd Avenue for westbound morning traffic, and in the vicinity of the lane drop at 82nd Avenue for the eastbound evening flow. Average speeds in these sections were reduced to 15 miles per hour or less during the peak periods.

The east-west arterial street system in the vicinity of the Banfield had a limited capacity to absorb additional traffic diverted from the Banfield.

In addition to the traffic flow problems, there were two major safety deficiencies on the Banfield that required immediate attention regardless of the type of capacity improvement implemented. The extremely heavy use of the Banfield had caused extensive lane rutting. This situation presented hazardous driving conditions in wet weather when standing water created the potential for tire hydroplaning and, under both wet and dry conditions, a problem in controlling vehicle direction. The other major problem lay with the median guard rail. It was a metal rail and wood post construction and was severely deteriorated. An accumulation of pavement overlay had reduced its relative elevation to the point that it was no longer an effective barrier.

section of road in the state of Oregon. It was expected that the Banfield AWD would continue to increase by 2 percent per year, reaching 138,600 by 1990. Without capacity improvements, a complete breakdown in the operation of both the Banfield and the adjacent east-west arterials would have occurred.

A more immediate problem was accommodating the peak period volumes on the Banfield. Since 1967, the peak hour volumes have stabilized at a number varying between 1,800 to 2,000 vehicles per lane per hour, while the length of the peak periods and the AWT continued to increase. This is an indication that the lane volumes had reached design capacity and was borne out by the growing morning and evening peak periods in which the freeway operated at levels of service varying from forced (F) to unstable (E) flow. Clearly, the original design capacity of 1,500 vehicles per lane per hour had been met in 1967 and the freeway was responding to increased traffic loads through reduced levels of services and increasingly longer peak periods. (TABLE 7).

The locations of the Banfield's critical traffic flow areas are west of 58th Avenue for westbound morning traffic, and in the vicinity of the lane drop at 39th Avenue for the eastbound evening flow. Average speeds in these sections were reduced to 15 miles per hour or less during the peak periods.

The east-west arterial street system in the vicinity of the Banfield had a limited capacity to absorb additional traffic diverted from the Banfield.

In addition to the traffic flow problems, there were two major safety deficiencies on the Banfield that required immediate attention regardless of the type of capacity improvement implemented. The extremely heavy use of the Banfield had caused extensive lane rutting. This situation presented hazardous driving conditions in wet weather when standing water created the potential for tire hydroplaning; and, under both wet and dry conditions, a problem in controlling vehicle direction. The other major problem lay with the median guard rail. It was a metal rail and wood post construction and was severely deteriorated. An accumulation of pavement overlay had reduced its relative elevation to the point that it was no longer an effective barrier.

TABLE I

LEVELS OF SERVICE

Level of Service "A"	-	Relatively free flow, some stops will occur. Average speed above 30 mph.
Level of Service "B"	-	Stable flow, reasonable delays. Average speed 25-30 mph.
Level of Service "C"	-	Design capacity, stable flow, acceptable delays. Average speed 20-25 mph.
Level of Service "D"	-	Approaching unstable flow, delays tolerable. Average speed approximately 15 mph.
Level of Service "E"	-	Unstable flow, congestion not due to backups ahead. Average speed approximately 15 mph.
Level of Service "F"	-	Forced flow, jammed, stop-and-go conditions. Average speed less than 15 mph.

2.1.3 Alternatives Studied

In response to the identified problem, four alternatives were studied:

a. Do Nothing

This alternative would have resulted in expanded periods of congestion as traffic demand increased. The consequent traffic delays would have had an adverse impact on the already unacceptable levels of air pollution.

b. Ramp Metering

Placing a control over the amount of traffic entering the freeway would have transferred the congestion problems to the adjacent arterial streets; hence, not resulting in a satisfactory transportation improvement in the corridor.

c. Additional Unrestricted Lanes

The experience nationwide is that added freeway lanes tend to be self-fulfilling in demonstrating their need. In general, only a short term of relief is realized before the additional lanes generate more traffic and negate whatever level of service improvements that may have been initially achieved.

An added consideration is that the Minnesota (I-5) Freeway was operating at near capacity and would have been incapable of dispersing a significant increase in morning commuter traffic from the Banfield (Refer to Vicinity Map on Page).

d. Improving Bus Service

It was apparent that increased transit service could easily absorb the projected trip volumes as well as relieve existing congestion if an adequate proportion of the Banfield users could be persuaded to take the bus. The experience of the Tri-Metropolitan County Transit District (Tri-Met) indicated that an attractive and convenient bus service, coupled with a signficant savings in time or money, would have to be demonstrated before this end could be realized.

The Highway Division became particularly interested in an idea to add two lanes to the freeway by reducing the width of existing lanes and utilizing shoulder space. It was anticipated that for the reasons mentioned in the above discussion of alternatives, combined with other environmental concerns, using the added lanes for regular traffic would be unacceptable. However, reserving the added lanes for high occupancy vehicles appeared to offer the means to relieve congestion in an environmentally acceptable manner. A feasibility study was made and presented to the Oregon Transportation Commission (OTC) for their approval. In January, 1976, the OTC granted the approval to proceed with the implementation process to incorporate HOV Lanes on the Banfield Freeway.

2.2 Planning

In 1974, the U.S. Congress passed the Emergency Highway Energy Conservation Act. Included in this Act was Section 3(e) "Carpool Incentives and Opportunities" in which the diamond lane concept for preferential carpool and bus lanes was included. The Act authorized the use of Federal Aid Funds for urban carpool demonstration projects. Eligible projects included carpool matching programs, designation of exclusive and preferential lanes for carpools and buses, traffic control devices for preferential carpool facilities, signing and minor modifications of publicly-owned parking facilities to provide preferential carpool parking, and coverage of start-up costs in connection with vanpool systems.

The 1974 Act influenced the Oregon Department of Transportation's (ODOT) response to the congestion problem on the Banfield. With encouragement and support from the local FHWA office, ODOT began the planning effort to implement the preferential lanes. The Oregon Department of Environmental Quality was consulted for their requirements under the Indirect Source Guidelines for Air Quality. An Indirect Source Permit was granted with the condition that an extensive traffic and air monitoring program be carried out to evaluate the effectiveness of the HOV lanes in improving air quality. FHWA concurred with the ODOT decision to classify the project as a "Major Action, Nonsignificant", and a draft and final Negative Declaration were prepared pursuant to the regulations set forth in the Federal Highway Program Manual, Volume 7, Chapter 7, Section 2. PA Technical Advisory Committee (TAC) was formed to aid in the planning and implementation process. The members of the Banfield TAC, which remains as an active advisory body, are:

Oregon Department of Transportation
Oregon State Police
Tri-County Metropolitan Transit District (Tri-Met)
Multnomah County Planning Department
Inner Southeast Neighborhood Coalition
Hollywood Boosters
Hollywood Kiwanis
Oregon State Department of Environmental Quality
City of Portland Planning Bureau
City of Portland Traffic Engineer
Multnomah County Circuit Court

ODOT Staff members for the committee included:

Project Information Officer
Traffic Engineer
Environmentalist
Design Engineer

As the planning program moved forward, the TAC met at regular intervals to review progress and make ~~suggestions~~ RECOMMENDATIONS. Some of the topics addressed by the TAC were:

a. Possibility of using contra-flow lanes.

b. Ramp metering as a solution to the Banfield problem.

c. Location of the HOV lane on the freeway.

d. Bus operations on the Banfield Freeway and the HOV Lane.

e. Safety of the narrowed lanes.

f. Construction speed limits.

g. Marketing program for the new lanes.

h. Wording on the HOV lane signs.

i. Procedure for handling disabled vehicles on the Banfield Freeway.

j. Installation of telephones in emergency pull-off areas.

During the ensuing months after the HOV lanes were opened, the TAC addressed:

a. Speed limits after construction was finished.

b. Enforcement and violation rates.

c. Re-evaluation of project goals.

d. Ramp revisions to improve exit and entrance safety.

e. Installation of a median glare shield.

f. Court handling of HOV lane violation cases.

g. Ramp control during peak hours.

h. Allowing a taxi to use the lanes even though he did not have three people in his vehicle.

HOV

i. Changing the hours of operation of the HOV lanes and reducing the number of people that constitute a carpool.

j. Assisting in the implementation of parking incentives in Downtown Portland.

2.3 Project Description

The project description has been divided into three subtopics. The description of "signing" was separated from the usual dichotomy of "Operations" and Construction" due to the unique signing needs and problems encountered on this project.

2.3.1 Construction

The project was construct ed in concert with the needed maintenance and safety improvements which were required regardless of whether the HOV Lanes were implemented. Maintenance consisted of an open graded asphaltic concrete overlay and the safety improvements included upgrading the shoulder guardrails, replacing the existing metal median guardrail with a New Jersey type concrete barrier, and providing barrier attentuation at bridge abutments. The combined contract cost $1,750,000. The estimated cost of the HOV Lane portion of the project was $500,000 or 30 percent of the total amount contracted.

The HOV Lane project consisted of the following construction items.

a. It was necessary to restripe the entire roadway section using all the pavement between the shoulder rails for travel lanes. It should be emphasized that there was no reduction in the number of lanes available to normal traffic. The HOV Lanes were derived in reducing the worth of the existing travel lanes by one foot and eliminating the shoulder pull-off area. The consequent relative lane widths are 11.5 feet for the outside lane, 11 feet for the center lane, and 12 feet for the inside or HOV lane (Figure 3).

FIGURE BANFIELD CROSS SECTIONS

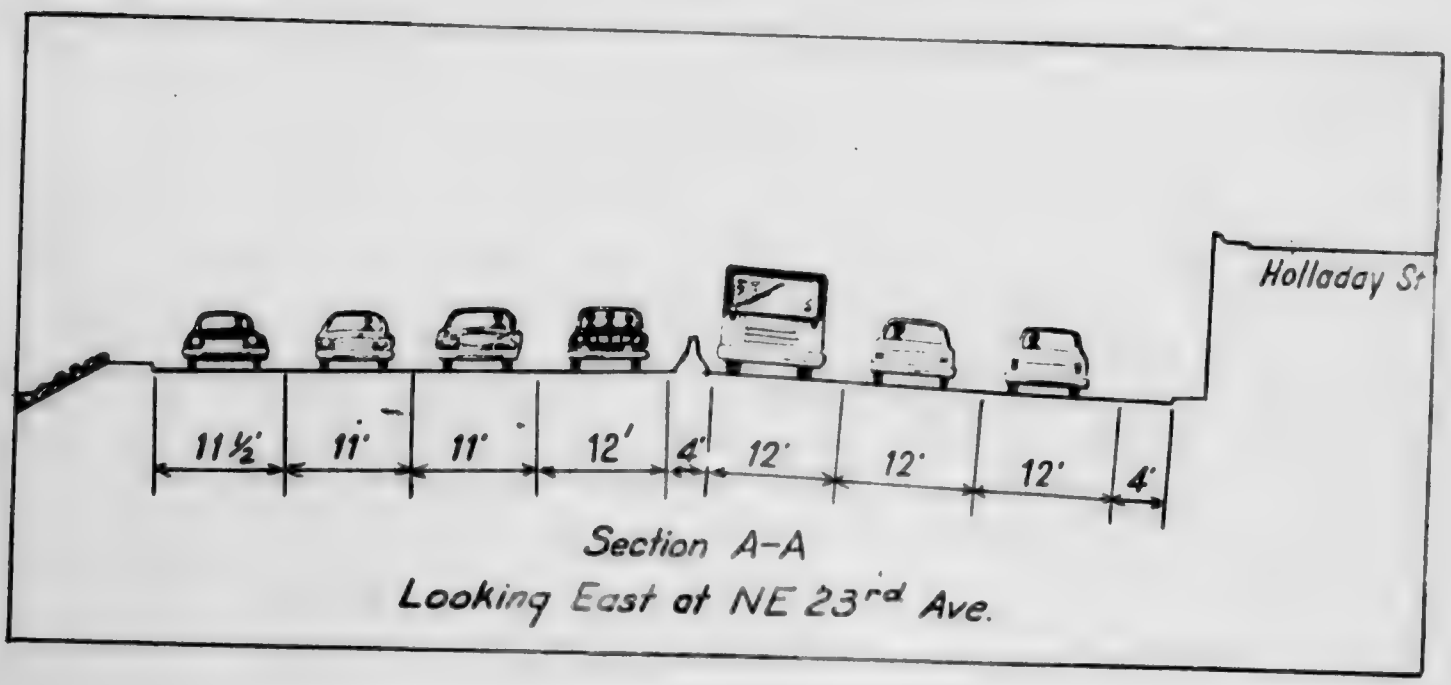
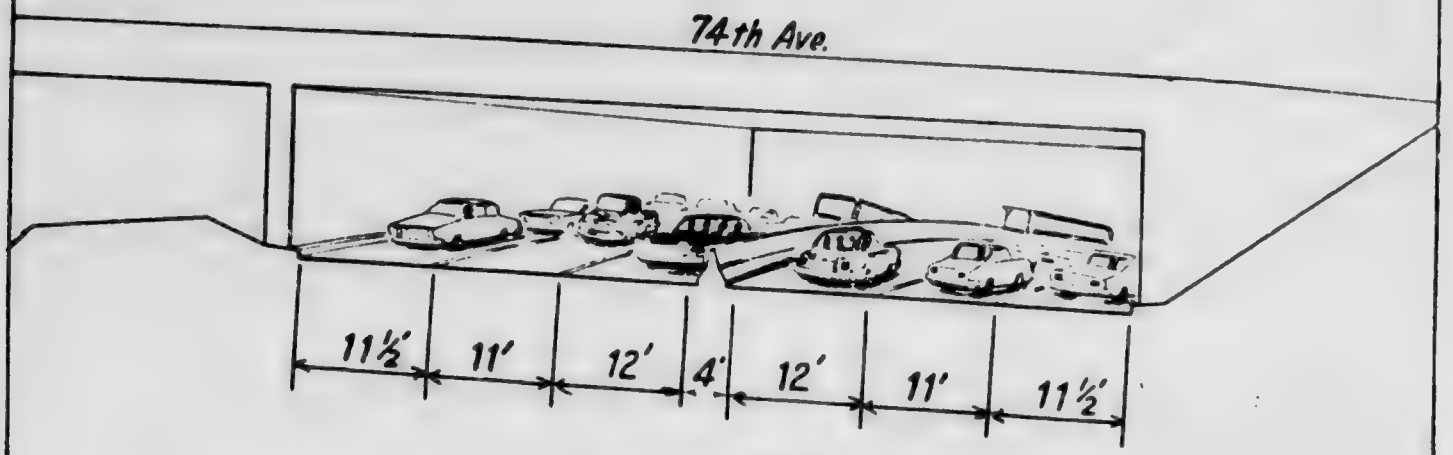


FIGURE cont'd

Section B-B
Looking East Near Providence Hospital



Section C-C
Looking East at NE 74th Ave.

Standard raised button striping was used in a pattern consisting of four opaque and one reflectorized buttons in a 15 foot strip, at 40 foot intervals for the non-restricted travel lanes. A continuous button stripe containing a reflectorized button every 40 feet was used to delineate the HOV lanes. The raised buttons provided the added advantage of creating a rumble strip to alert motorists of unintended lane changing.

Due to the physical restraints of the gulch and the financial and temporal inability to purchase right-of-way or perform major reconstruction, it was found that the westbound (inbound) HOV Lane could only be added between N.E. 74th Avenues and N.E. 21st Avenue and the eastbound (outbound) HOV Lane could only be added between N.E. 44th Avenue and N.E. 74th Avenue.

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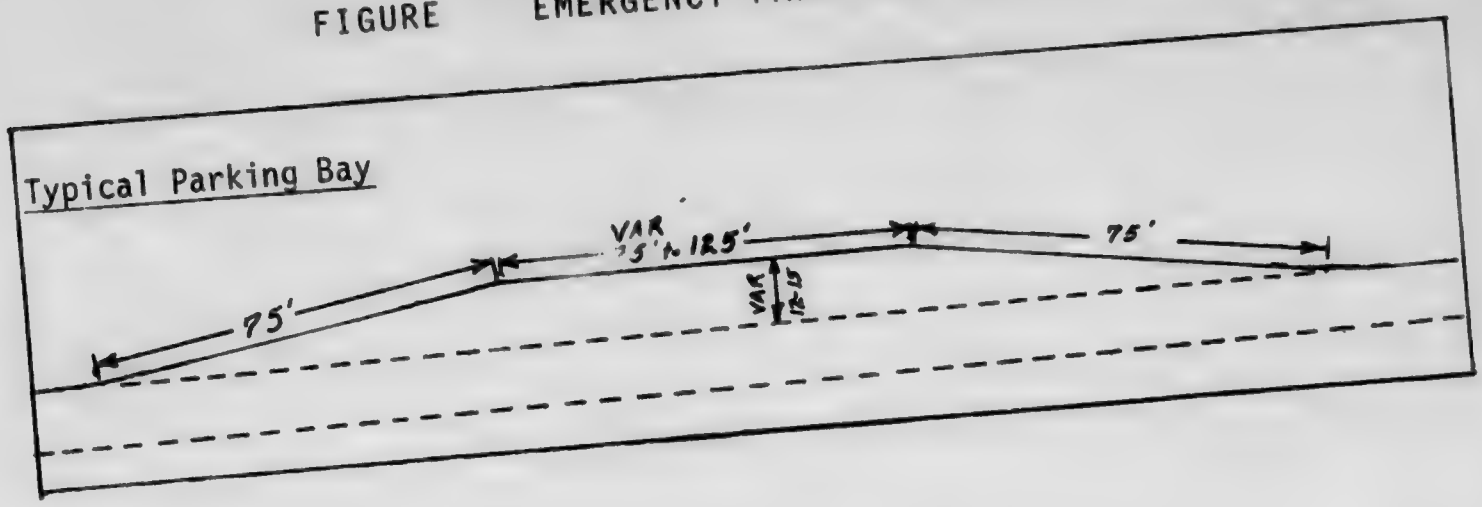
of ...

al

the

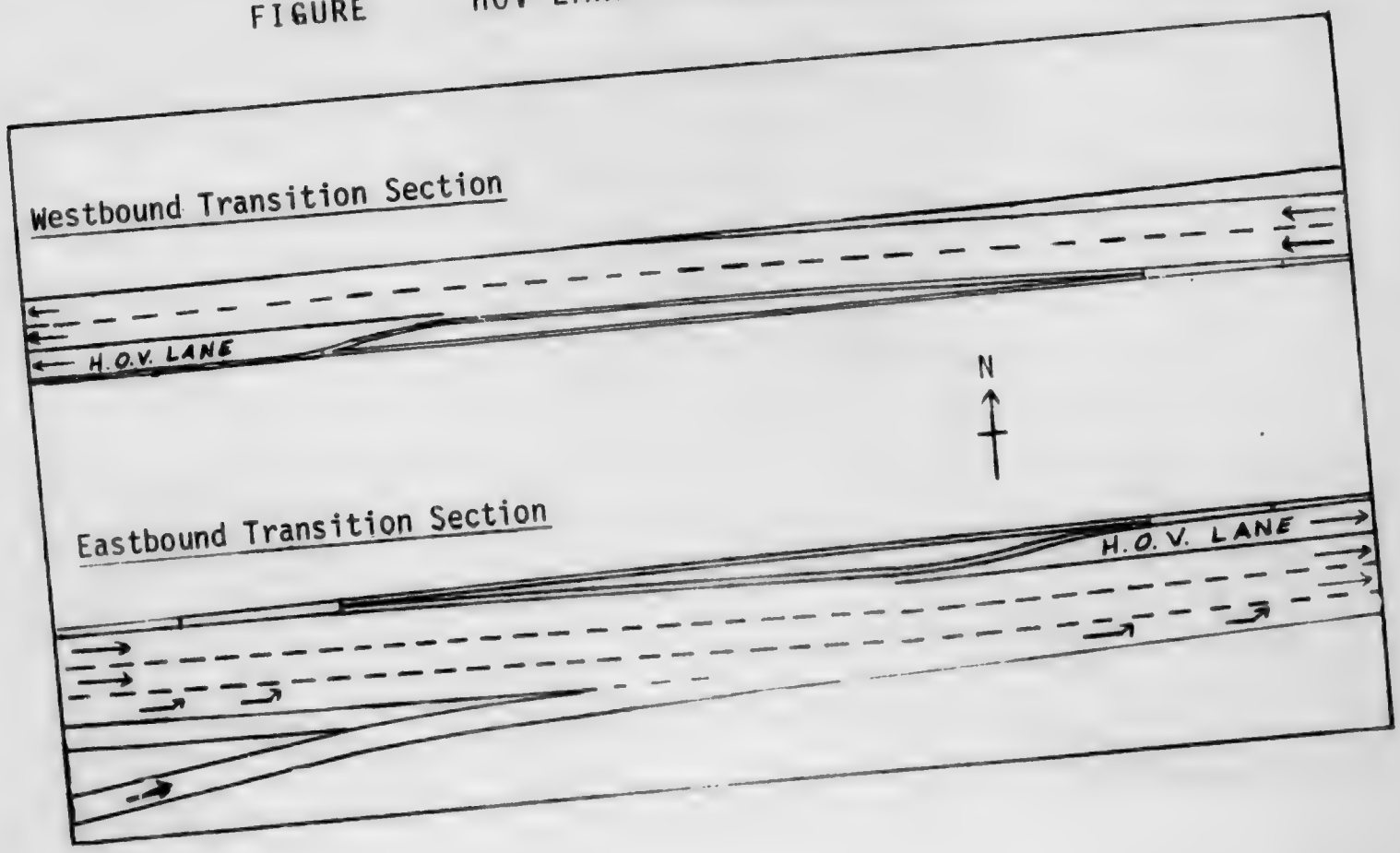
b. In order to mitigate for the loss of shoulder area, emergency parking bays were provided at approximately 2,000 foot intervals where possible. These bays were 150 feet long with a 75 foot taper section leading into and out of the bay. (Figure). Eight bays were originally proposed however, one site experienced retaining wall problems and was eliminated.

FIGURE EMERGENCY PARKING BAYS



c. The transition into the HOV lane, eastbound and westbound was achieved through a tapered median which moves the alignment of the nonrestricted travel lanes the width of one lane to the right (Figure 10). The shoulder area was eliminated to gain

FIGURE HOV LANES TRANSITION SECTIONS



the necessary width of an additional lane. At the completion of moving all traffic to the right, the median taper is reversed, creating an additional lane reserved for high-occupancy vehicles. No lane changing is required for normal traffic. Eligible vehicles choosing to use the HOV lane must move left into the restricted lane. At the terminus of the HOV lanes, the lane continues as a normal travel lane. The right-hand, unrestricted lane is eventually terminated.

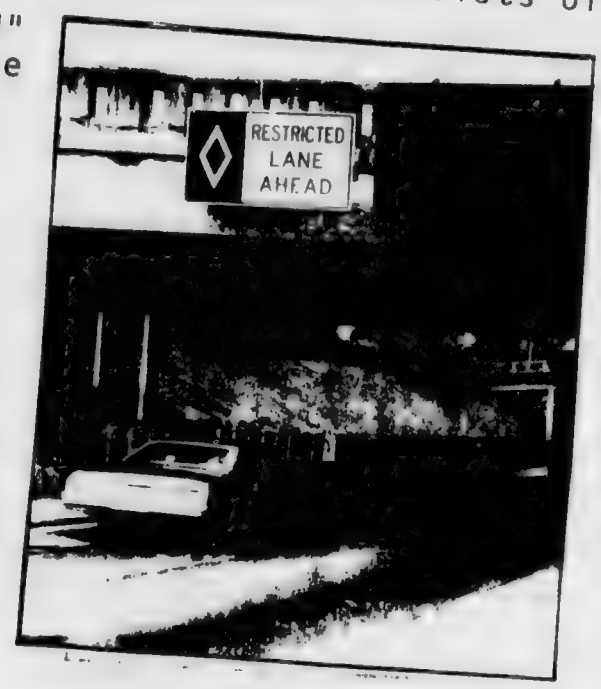
d. Soon after the project opened, it became apparent that there was a merging problem at the on-ramps of; 33rd Avenue, 39th Avenue eastbound, 58th Avenue westbound, and 82nd Avenue/Halsey Street. This problem resulted from moving the outside travel lane onto the shoulder which, in turn, shortened the acceleration lane to the point that vehicles could not safely merge with freeway traffic. The problem was corrected by adding additional work to the contract to provide longer merge distances. Section 6.2 discusses this problem in greater detail.

CHECK SEC. #

2.3.2 Signing

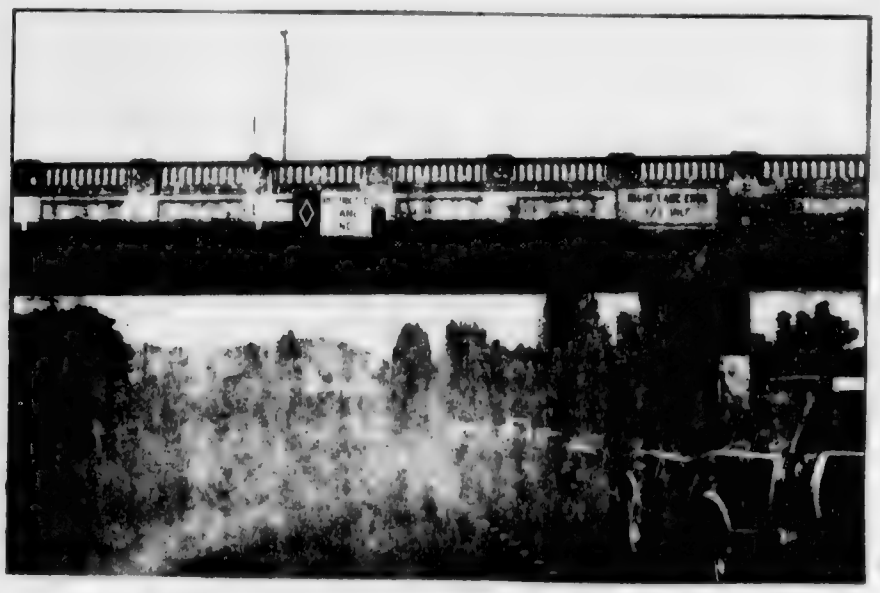
It was necessary to provide signing that would adequately instruct the motorist on the operation of the HOV Lanes yet minimize distraction and be easily read from a vehicle moving at freeway speeds. The signing for the HOV Lanes consists of:

a. "Restricted Lane Ahead" to provide advance notice of the HOV Lanes. The sign measures 8'6" wide and 5 feet high with 10-inch lettering. They are placed directly over the lane approximately 2,000 feet before the beginning of the HOV Lane.



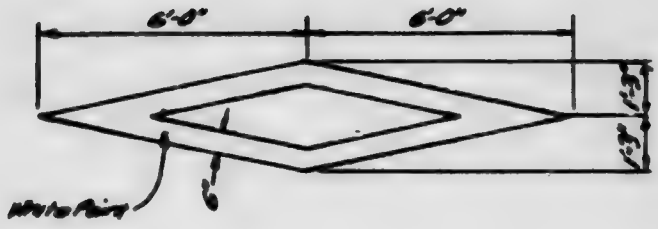
b. "Buses and 3-person Carpools Only" posted at the beginning of the HOV Lanes. They measure 9 feet wide and 7 feet high with 10-inch lettering. They are spaced throughout the reserved lane approximately 2,000 feet apart. Distance is dictated by the location of overhead structures on which the signs are mounted.

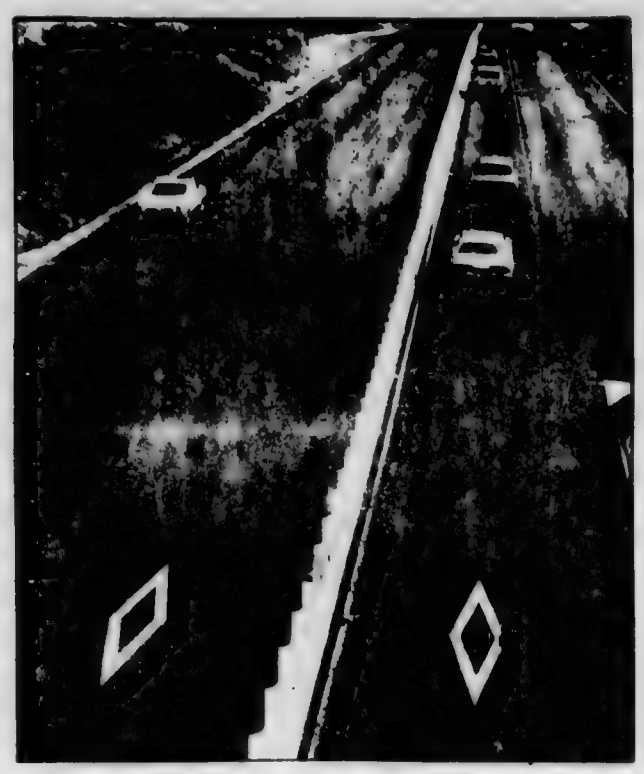
c. "Restricted Lane Ends" posted at the terminus of the HOV Lanes. The signs measure 8' 6" by 5 feet with 10-inch lettering



Sign at terminus of westbound HOV Lane.

d. Large diamond symbols are painted on the road surface every 500 feet throughout the restricted lane.





e. "55 MPH" signs are posted throughout the HOV Lane section. Originally a 45 mph limit was in effect but later was raised after project construction was completed.

f. Normal signs for an urban freeway are situated as needed along the Banfield route.

2.3.3 Operations

The Tri-County Metropolitan Transit District (Tri-Met) commenced "Banfield Flyer" express bus service on the Banfield on December 1, 1975, 15 days before the HOV lanes were put into operation. This was necessary due to scheduling requirements and media advertising which reflected an earlier opening date for the HOV lanes. The project was formally opened on December 15, 1975, reserving two lanes for high occupancy vehicles 24 hours a day, seven days a week. The construction speed limit of 45 m.p.h. was retained after the opening due to remaining construction tasks that were still in progress.

As a result of substantial public criticism, the times that the HOV lane restriction is in effect was modified to 6:00-10:00 AM westbound and 3:00-7:00 PM eastbound Monday through Friday. At this time, the speed limit was increased to 55 m.p.h., which was the original speed limit existing prior to HOV construction. A determination was made that these revisions would not adversely

affect the intent or performance of the HOV project. The speed in all lanes had exceeded the speed limit during off peak hours, hence the reserved lanes did not provide a carpool incentive for off peak traffic. Additionally, HOV lane enforcement was facilitated by shortening the number of restricted hours during which special policing was required.

The time restrictions were further modified on October 11, 1976. The hours of reservation were reduced to 6:30-9:30 AM westbound and 3:30-6:30 PM eastbound. These times remain in effect today.

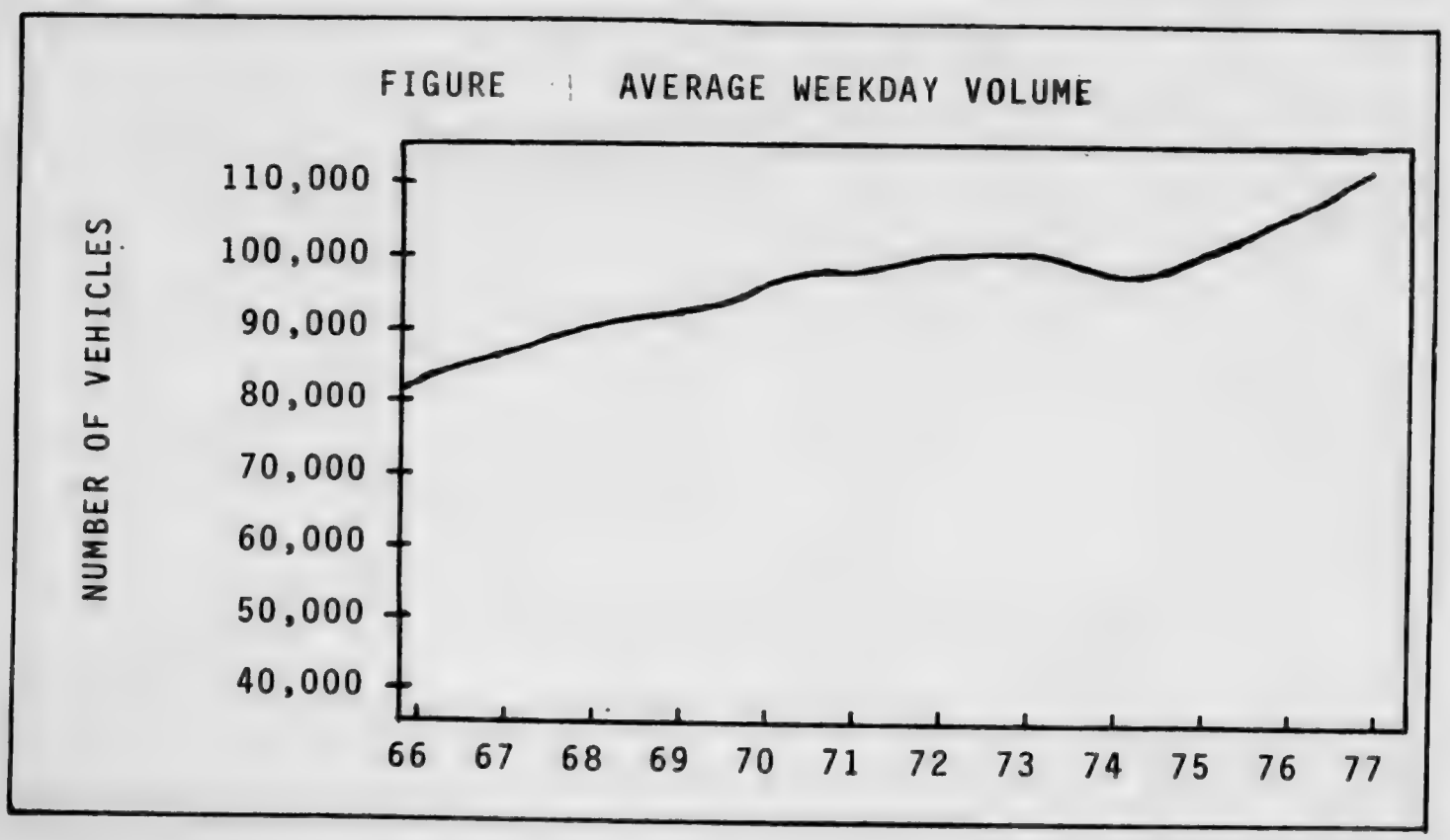
3.0 ANALYSIS OF TRAFFIC FLOW CHARACTERISTICS

The traffic analysis for the Banfield HOV lane project was based primarily on observation of the AM peak traffic flow for two reasons. First, the inbound HOV lane is approximately twice as long as for the outbound lane, therefore providing a greater incentive for use. Second, inbound traffic conditions usually affect changes in vehicle occupancy and shift to public transit more than outbound conditions. Inbound traffic is primarily composed of commuters; whereas outbound traffic may include shoppers.

3.1 Traffic Volumes

a. Average Weekday Volumes - The permanent recorder, located at 21st Avenue on the Freeway, showed a 1975 average weekday traffic (AWD) count of 105,800 vehicles for the three month period of April through June. During the previous 10 years, the AWD increased approximately two percent per year (Figure 7); therefore, under a normal growth projection without the HOV lanes, traffic would have increased to 110,000 AWD for the same time period in 1977. However, with the HOV lanes in operation, the Banfield is presently carrying an AWD of 112,100, a 2,100 increase.

FIGURE 7 AVERAGE WEEKDAY VOLUME

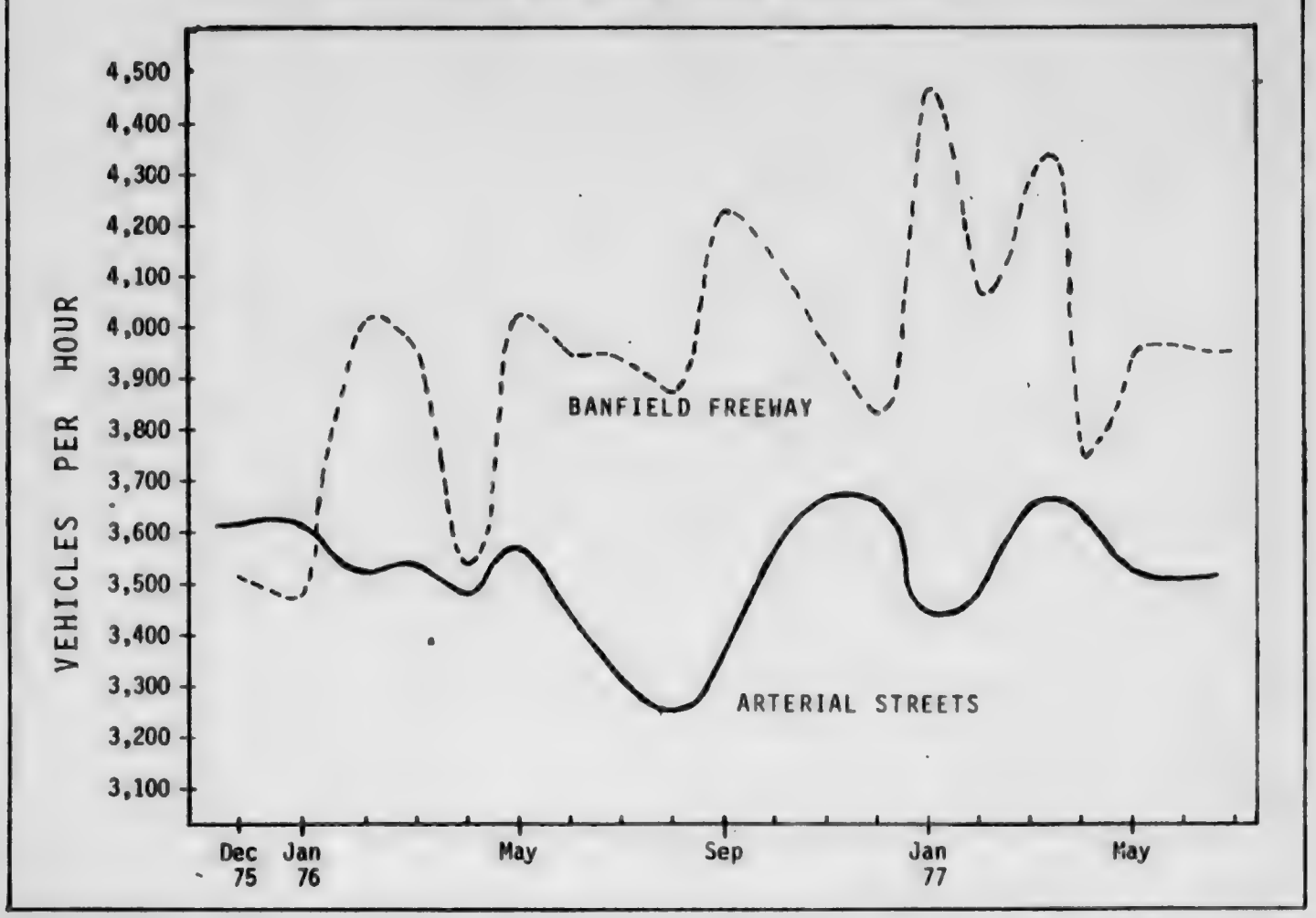


This increase (two percent) is a result of traffic diverted from adjacent east-west arterial streets. Nearly all the diverted traffic came from arterial streets between and including Broadway

and Burnside streets. In 1975, these streets carried 65,000 AWD. After the HOV lanes were opened, the AWD on these streets dropped approximately three percent. The diversion is greater than 2,100 AWD because some automobile travel has been eliminated as a result of increased carpooling and bus ridership.

b. Peak Hour Volumes - During the three month time period April-June in 1975, the average peak hour volume in the morning (westbound) was 3,750 vehicles per hour (VPH). Assuming that the HOV lanes were not implemented, approximately 3,900 VPH were projected for 1977. This is compared to 4,025 VPH actually counted in 1977 (Figure 2) -- 3,845 VPH in the normal travel lanes and 180 VPH in the HOV lane. These volumes do not include buses. The

FIGURE
WESTBOUND AM PEAK HOUR VOLUMES



difference of 125 VPH is only a three percent increase in volume; however, when converted to persons per hour (PPH), the increase is more significant. As shown in Table , the Banfield is carrying

10 percent more people with the HOV lane than was projected without. The table also shows that the HOV lane is carrying nearly 20 percent of the people in less than five percent of the vehicles.

TABLE 2

WESTBOUND AM PEAK HOUR VOLUMES, BANFIELD FREEWAY
HOV LANES OPEN vs. NO HOV LANES

	CONDITION (1977)	
	No HOV Lane	HOV Lane Open
Vehicles Per Hour		
Non-HOV	3,900	3,845
HOV	-	180
Buses	10	20
Total	3,910	4,045
Persons Per Hour		
Non-HOV		
Autos	4,750	4,545
Buses 1/	400	-
HOV		
Autos	-	505
Buses 2/	-	570
Total	5,150	5,620
Number of Persons per Vehicle 3/		
Non-HOV	1.217	-
HOV	1.18	2.81

1/ Local buses only
2/ Banfield Flyer and local buses
3/ Does not include buses

Table 2 shows 5,620 persons are being carried in 4,045 vehicles during the AM peak hour. Without the HOV lane, it could be expected that 4,300 vehicles [(5,620 - 400)/1.217] plus 10 buses would be needed to carry the same number of persons. Since the freeway would carry 3,910 VPH, the other 390 VPH would be forced onto city streets during the AM (7:00-8:00) peak hour. This is nearly equivalent to one lane of traffic on a city street.

c. Peak Hour Capacity - The maximum capacity of a freeway lane is about 2,100 VPH. Inbound at 47th Avenue, the Banfield can be expected to carry a maximum of 4,200 VPH without an HOV lane, or 5,500 PPH (Table 2). With the HOV lane, the potential person capacity approximately doubles (Table 2). To retain the incentive to carpool, a capacity limit of 1,100 VPH is assumed for the HOV lane. Preliminary estimates from the Banfield Transitway Study indicate that one hundred buses is the maximum capacity for the HOV lane. Without the HOV lanes, the freeway would be operating today at over 90 percent of its maximum person capacity. With the HOV lanes open, the freeway is operating at about 50 percent of its potential person capacity.

TABLE

PEAK HOUR CAPACITY, BANFIELD FREEWAY
HOV LANES OPEN vs. NO HOV LANES

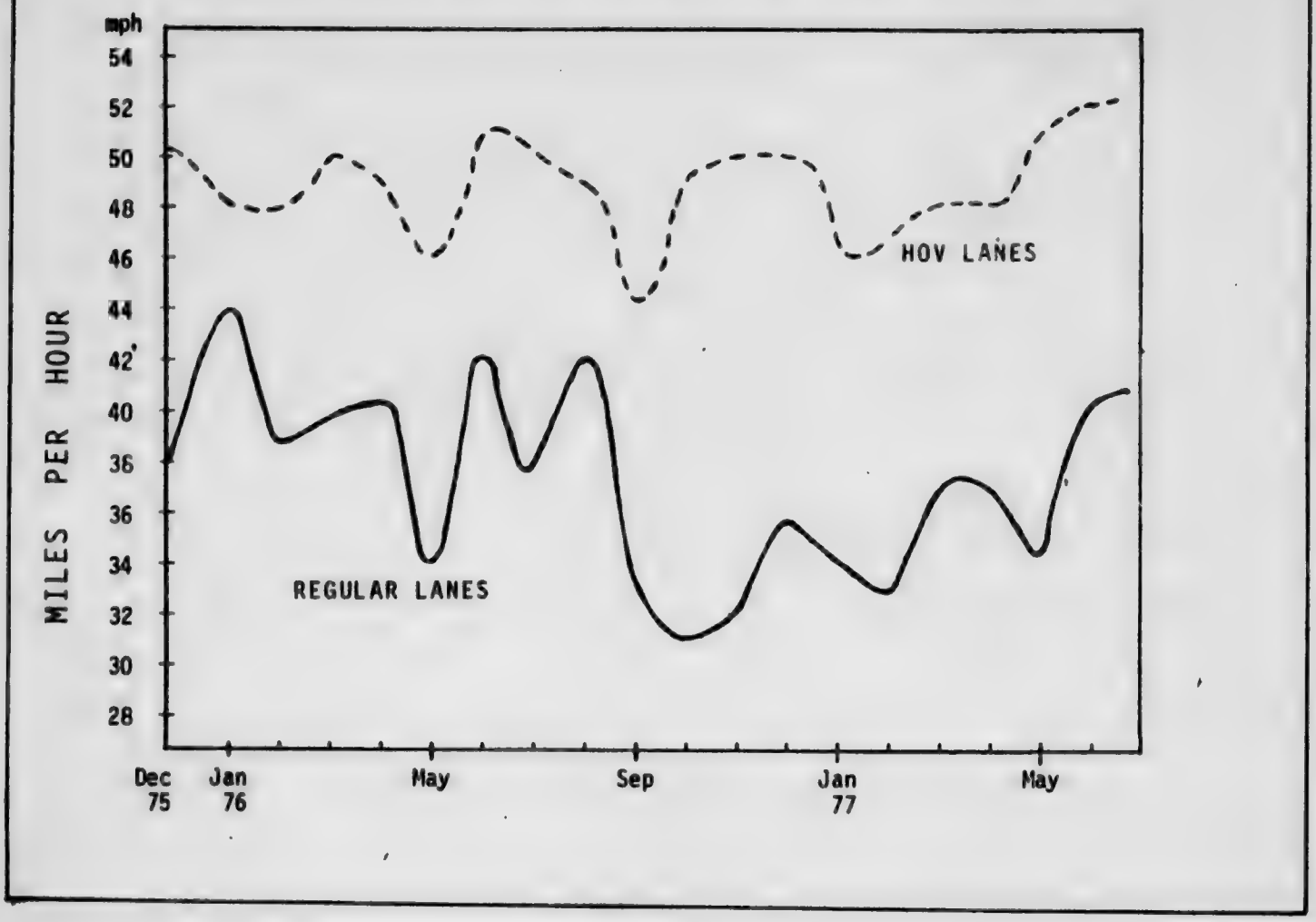
	CONDITION (1977)	
	No HOV Lane	HOV Lane Open[1]
Vehicle Capacity		
Non-HOV Lanes	4,200	4,200
HOV Lane	-	1,000 [2]
Total	4,200	5,200
Person Capacity		
Non-HOV Lane	5,500	4,950 [3]
HOV Lane	-	5,400 [4]
Total	5,500	10,350

[1] Buses and carpools
[2] 900 carpools, 100 buses (one bus equivalent to two cars)
[3] Car occupancy factor of 1.217 plus 400 bus riders
[4] Car occupancy factors of 2.8 (includes violators) plus assume 28.5 riders per bus

3.2 Average Peak Hour Speeds

The average westbound vehicle travel speed in 1975 over the entire freeway section was about 38 MPH. In 1977, under the HOV lane operation, it was 37.9 MPH in the non-HOV lanes and 51.5 in the HOV lane. The average speed for all vehicles in all lanes is 38.4 MPH. Without the HOV lane, the average travel speed in 1977 would have been 37.3 MPH. Thus, the average peak hour speed has increased one mile per hour (Figure ').

FIGURE BANFIELD FREEWAY AM PEAK HOUR TRAVEL SPEEDS



However, when comparing the average travel speed for the entire pool of traffic now using the Banfield (5,620 PPH), a more significant overall improvement in travel speed is revealed (Table 4).

TABLE

AM PEAK HOUR TRAVEL SPEEDS, BANFIELD FREEWAY
74th AVENUE - 21st AVENUE
HOV LANES OPEN vs. NO HOV LANES

	CONDITION (1977)			
	No HOV Lane			HOV Lanes Open
	Banfield Freeway	Arterial Streets	Total	
Vehicles Per Hour	3,910	390	4,300	4,045
Persons Per Hour				
Non-HOV	5,150	470	5,620	4,545
HOV	-	-	-	1,075
Average Travel Speed (mph)				
Non-HOV	37.3	15.0		37.9
HOV	-	-		51.5
Average Travel Time (minutes)				
Non-HOV	5.36	13.20		5.27
HOV	-	-		3.88
Person Hours of Travel				
Non-HOV	460	103	563	399
HOV	-	-	-	70
Average Person Travel Time (min)	-	-	6.02	5.00
Average Vehicle Travel Speed	-	-	33.1	38.4

The average vehicular travel speed with the HOV Lanes open is over 38 MPH for the 4,045 vehicles carrying 5,620 persons. This compares to 33 MPH for the 4,300 vehicles carrying 5,620 persons if the HOV Lanes were not open.

3.3 Road User Benefits

a. Travel Time - in 1977, the average inbound travel time on the HOV Lane is 3.88 minutes during the AM peak hour. For vehicles traveling in the other lanes, the travel time is 5.27 minutes. There is a savings of 1.39 minutes for those vehicles using the HOV Lane.

If the HOV lanes were not open, the inbound average travel time per person or vehicle over the project section would be 5.36 minutes. Those persons using the HOV lane are saving 1.48 minutes compared to conditions with no HOV lanes, a 28 percent savings.

As shown in Table 3, the average travel time between 74th and 21st avenues for the entire pool of 5,620 persons would be 6.02 minutes if the HOV lanes were not open. With the HOV lanes open, the overall average travel time is 5.00 minutes per person, a 1.02 minutes savings (17 percent).

The total travel time savings as shown in Table is 94 person hours of travel (PHT). If this savings occurred for three hours per day, 250 days per year, then the total yearly savings would be over 70,500 PHT.

The vehicles hours of travel (VHT) by the 4,045 vehicles achieved with the HOV lanes open is 351; while under a no HOV lanes condition, total hourly travel for the 4,300 VPH would be 434 VHT. The 83 VHT saved during the AM peak hour would total nearly 62,500 VHT in one year. Based on an estimated average cost of $4.20 for one vehicle hour of travel, approximately $262,000 are saved in one year in travel time costs, during the AM peak hour, as a result of the HOV lanes.

b. Auto Operating Costs - Consequent to the opening of the HOV lanes, the reduction in automobile travel has resulted in a decrease in vehicle miles traveled (VMT) and out-of-pocket travel costs. This reduction has been accomplished through increased transit and carpool use. According to the Bus Ridership Survey, a decrease of 675,000 VMT per year has resulted from the switch to transit.[1] The Carpool Survey indicates a total reduction of approximately 605,425 VMT a year for those persons who are car-pooling with 3 or more people.[2] Therefore, a total reduction in automobile travel of 1,280,425 VMT per year can be credited to the HOV lanes.

The U.S. Department of Transportation has set the out-of-pocket operating costs of owning and operating an automobile in 1976 at 7¢ per mile. This includes costs of oil, gas, routine maintenance and taxes. Therefore, considering the 1,280,425 VMT, the reduction in auto travel is saving motorists $89,629 per year. This savings is offset, however, by the added cost in transit fares of approximately $35,000 per year for the 175 new bus riders at 80¢ per work day.

c. Fuel Consumption - (Refer to Section 8.0)

3.4 Banfield Freeway Occupancy Rates

The AM peak hour occupancy rate on the Banfield was 1.217 persons per vehicles prior to the opening of the HOV lanes. During the three-month period April-June, 1977, the averate rate was 1.255 (the rates do not include buses). Therefore, every 1,000 vehicles (excluding buses) now carry 38 additional persons compared to before the HOV lanes were open -- eliminating 25-30 automobiles. According to the Carpool Survey, 132 automobiles are no longer used for commuter travel during that AM peak hour as a result of the increase in capacity.

3.5 Comparison With Other Portland Area Freeways

Other freeways in the Portland area have shown a slight decline in car occupancy rates. (Figure 10). The rates on both the Sunset Freeway (Hwy 26) and Minnesota (I-5) Freeway have decreased one to two percent over the past year compared to a four percent increase (excluding buses) on the Banfield Freeway. Table 4 shows the rates for all three freeways during the morning peak hour, and indicates that thus, the Banfield Freeway carries four percent more persons per automobile than the other two freeways during the morning peak hour (7:00-8:00 AM).

1 FOOTNOTE "BUS RIDERSHIP SURVEY"

2 " "CARPOOL SURVEY"

FIGURE 4 AVERAGE A.M. PEAK HOUR OCCUPANCY RATE

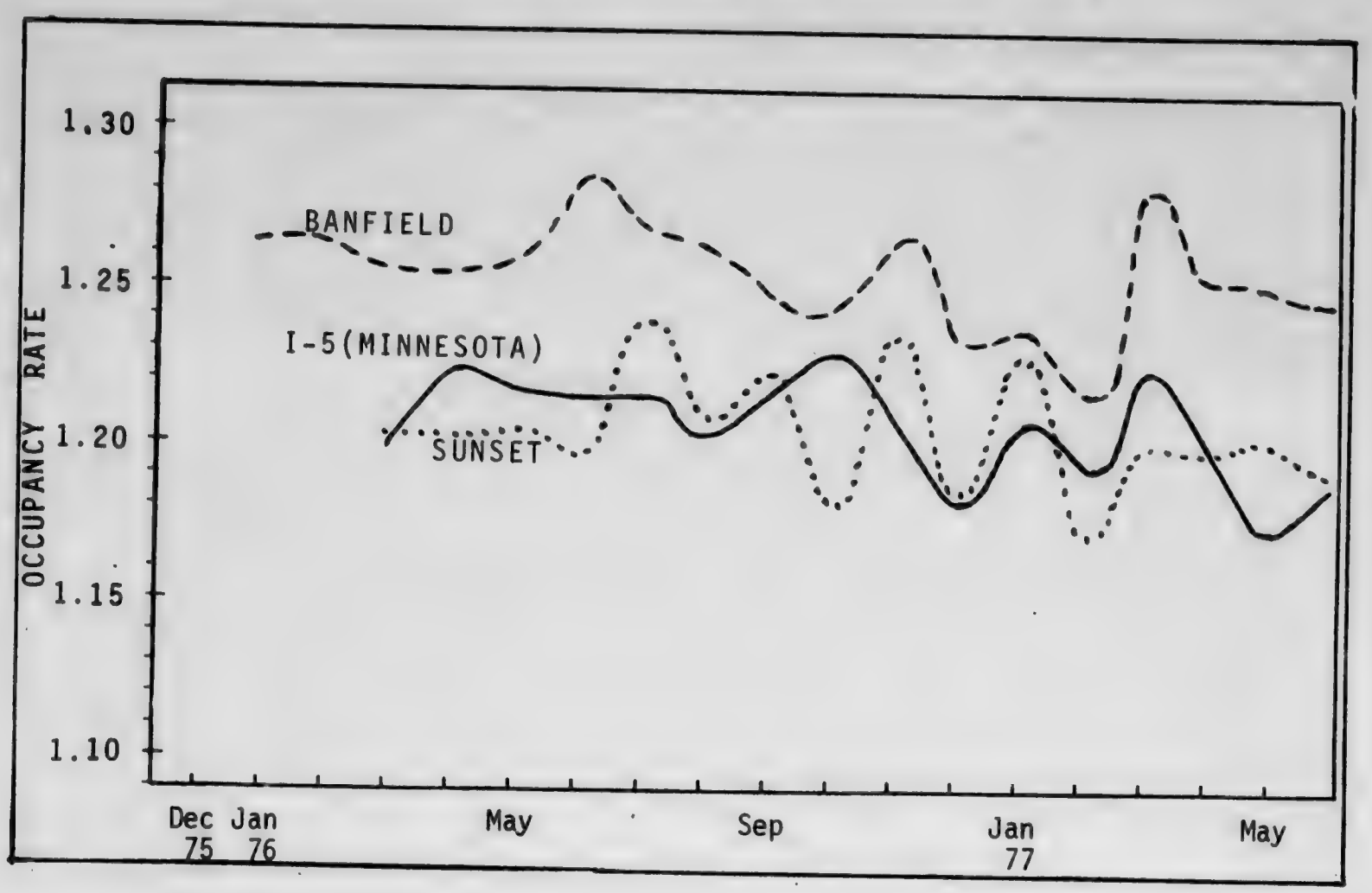


TABLE 5

CAR OCCUPANCY RATES, AM PEAK HOUR
BANFIELD FREEWAY vs. SUNSET AND MINNESOTA FREEWAY

CONDITION	Banfield	Sunset	Minnesota (I-5)
Before HOV April-June 1976	1.217	1.203	1.222
After HOV April-June 1977	1.255	1.191	1.201
Percent Change	+3%	-1%	-1%

3.6 Comparison of Truck Counts

The peak hour truck counts on the Banfield Freeway for the first six months of 1977 increased by 15 percent over the peak hour truck counts during the first six months of 1976. And, the peak hour truck counts on the arterial streets of Burnside and Sandy for the first six months of 1977 increased by 8 percent over the peak hour truck counts during the first six months of 1976. Under the monitoring procedures used for truck counts, a truck ~~was~~ is a vehicle that weighed at least three-quarters of a ton, excluding all automobiles and pickup trucks.

The significant increase in the number of trucks on the Banfield is considerably greater than the approximate 6 percent increase in other vehicles using the freeway during this same monitoring period. This additional truck increase can be partially attributed to the general statewide increase in the ratio of trucks to other vehicles. The ratio has been steadily climbing since 1972. The large increase in the number of trucks using the Banfield is also paralleled by a corresponding increase in the numbers using arterial streets. However, the increase on the arterial streets is not as large as the increase on the Banfield since a large percentage of truck traffic on the freeway is long-haul trucks which are more prone to stay on the freeway system.

4.0 ANALYSIS OF MODAL SHIFTS

One way to move more people on a highway that is already operating at capacity is to increase the number of occupants per vehicle. This requires significant changes in the commuting habits of many people. If the change is to be voluntary, the alternative must be attractive by offering advantages in travel costs, convenience, ~~or~~ AND/OR travel time.

The 1973 Banfield Traffic Survey revealed a strong potential for a successful high occupancy vehicle project.[1] The survey indicated that there was an average of only 1.22 persons per vehicle using the freeway, which means that nearly 75 percent of the vehicles had only one occupant. Furthermore, large numbers of these vehicles had nearly identical origins and destinations during the same hours. It was apparent that many of these people could be sharing rides, and in doing so, would improve congestion problems and increase the person carrying capacity of the Banfield. From this setting, the HOV lane project was conceived, and the objective of providing carpooling and bus-use incentives in the Banfield corridor was established.

The Tri-County Metropolitan Transit District (Tri-Met) provided strong support for the HOV lane project because they felt that through such a facility, they could offer not only a cost savings, but a demonstratable time savings to commuters using the special lanes. At the time, Tri-Met was in the midst of adding several new park-and-ride stations in east Multnomah County and planned to have express buses connect these stations with the downtown core area of Portland. By using the HOV lanes, an express bus would be time competetive with the non-carpool vehicles travel time from east county to the CBD. In addition, an intensive marketing program proposed by Tri-Met would serve to encourage the formation of carpools to share in the time and money savings afforded to transit by the HOV lanes.

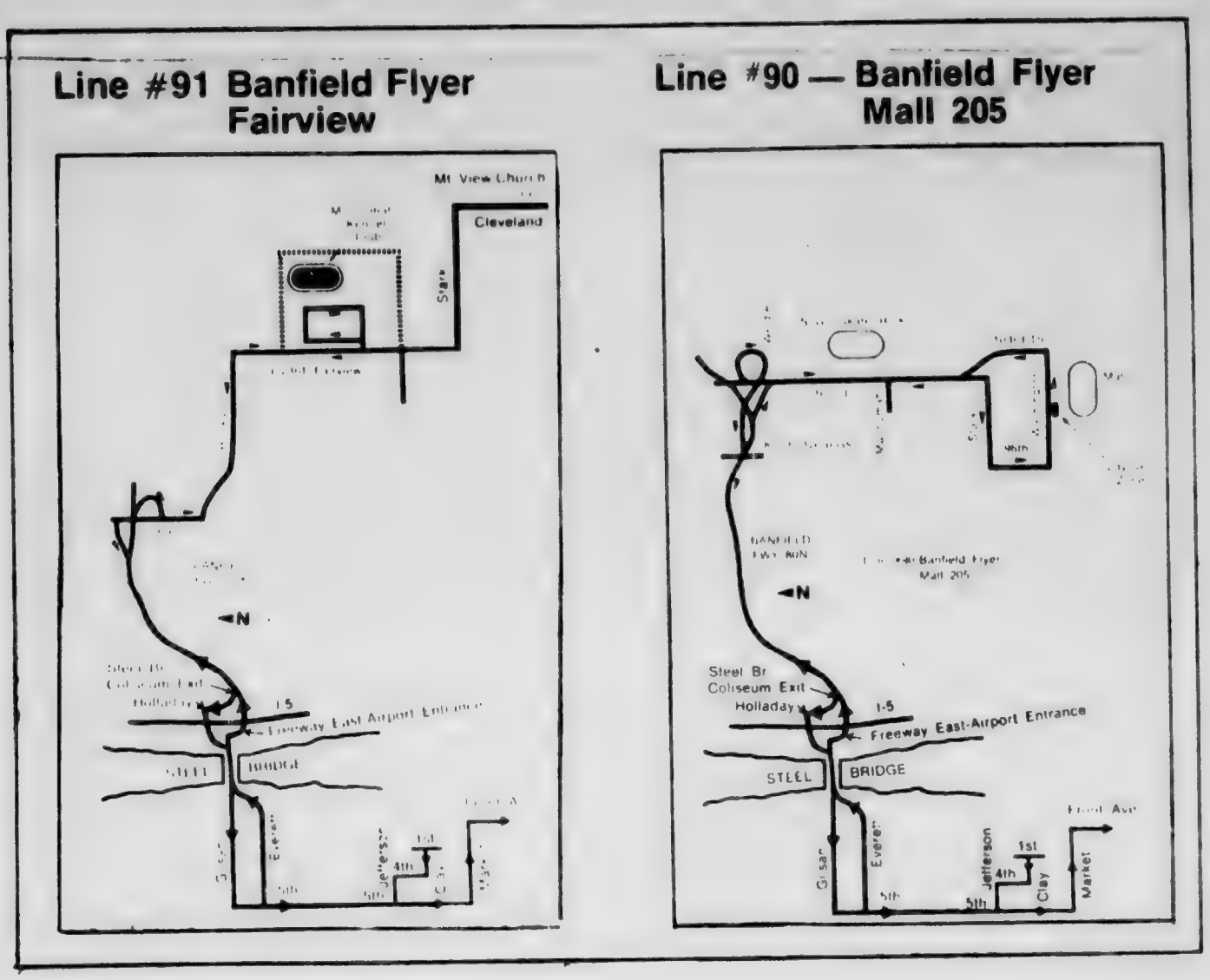
After implementation of the HOV lanes, an increase in both transit ridership and number of carpools has occurred, with transit ridership showing the larger increase.

4.1 Transit Ridership

Tri-Met instituted a fleet of express buses called "Banfield Flyers" to use the HOV lane in providing express service between the east county park and ride stations and the CBD. Two distinct lines are operated: Line #90, which runs from Mall 205 (a shopping center located adjacent to the I-205 Freeway corridor) to the downtown area, and Line #91 operating from the Multnomah Kennel Club in the city of Fairview (Figure 15).

1 FOOTNOTE "1973 BANFIELD TRAFFIC SURVEY"

FIGURE 15 BANFIELD FLYER ROUTE MAPS



The Banfield Flyers operate only during the morning and evening peak hours (Figure 16), running westbound in the AM and eastbound in the PM peak hours. In a case where a patron has to return to the park-and-ride station during the day, the stations are all served by regularly scheduled buses that operate on arterial streets instead of the Banfield Freeway. Once the Flyers enter the Banfield they run express to the CBD using the HOV Lanes enroute.

Ridership on the Banfield Flyers buses has grown from 300 patrons per day in January 1976, to 633 in June 1977 (Figure 13). A five-cent fare increase did not have a measureable effect on ridership; however, several minor declines and increases can be noted. The small dip in December 1976 may be attributed to many employers giving their employees the day before Christmas and New Years off while the small increase in January may be a result of a period of icy weather which encouraged commuters to take the transit rather than endure poor driving conditions. The introduction of several new park-and-ride stations in the Fall of 1977 is expected to contribute to a steady increase in Banfield Flyer ridership.

FIGURE 12 BANFIELD FLYER SCHEDULES

Line #91 Banfield Flyer Fairview

Peak Hour Express Service From Mt. View Church & Multnomah Kennel Club To Portland City Center

WEEKDAYS

Effective June 13, 1977

Mt. View Church	Mult. Kennel Club	205th & Halsey	181st & Halsey	5th & Oak	4th & Market
—	6:50	6:52	6:54	7:15	7:25
—	6:55	6:57	6:59	7:20	7:30
—	7:13	7:15	7:17	7:38	7:48
7:12	7:17	7:19	7:21	7:42	7:52
—	7:22	7:24	7:26	7:47	7:57
7:40	7:45	7:47	7:49	8:10	8:20
—	7:50	7:52	7:54	8:15	8:25

Peak Hour Express Service From Portland City Center To Multnomah Kennel Club & Mt. View Church

WEEKDAYS

Effective June 13, 1977

1st & Clay	5th & Jefferson	181st & Halsey	205th & Halsey	Mult. Kennel Club	Mt. View Church
4:39	4:40	5:01	5:03	5:05	—
4:44	4:45	5:06	5:08	5:10	5:20
4:54	4:55	5:16	5:18	5:20	—
5:04	5:05	5:26	5:28	5:30	—
5:09	5:10	5:31	5:33	5:35	—
5:14	5:15	5:36	5:38	5:40	5:50
5:34	5:35	5:56	5:58	6:00	—

The Following Legal Holidays will apply: New Year's Day, Memorial Day, 4th of July, Labor Day, Thanksgiving and Christmas.

NO SATURDAY, SUNDAY, OR HOLIDAY SCHEDULE

SUBJECT TO CHANGE WITHOUT NOTICE

TRI-MET

Line #90 — Banfield Flyer Mall 205

Peak Hour Express Service From Mall 205 To Portland City Center

WEEKDAYS

Effective June 13, 1977

Mall 205 97th & Wash	Silver Skate Rink	5th & Oak	4th & Market
7:00	7:05	7:20	7:30
7:20	7:25	7:40	7:50
7:55	8:00	8:15	8:25

Peak Hour Express Service From Portland City Center To Mall 205

WEEKDAYS

Effective June 13, 1977

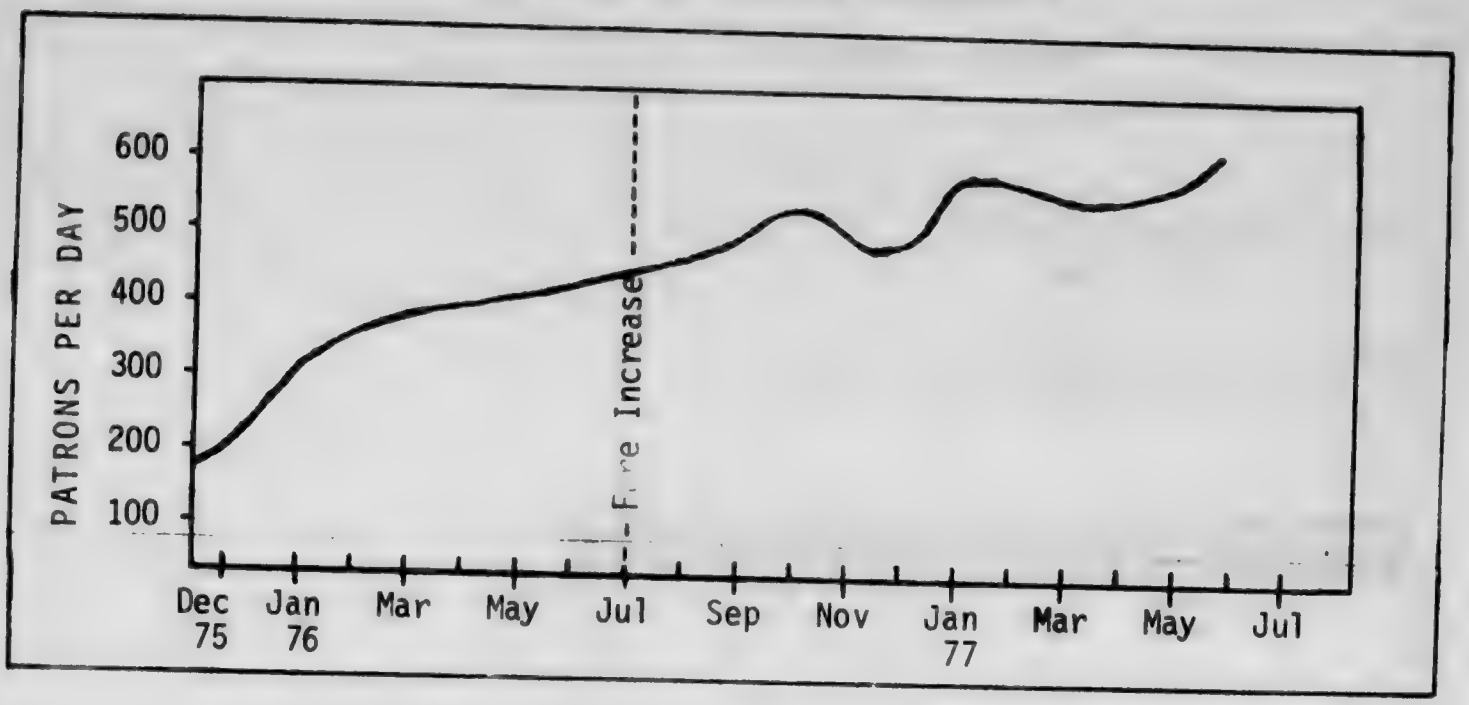
1st & Clay	5th & Jefferson	Silver Skate Rink	Mall 205 97th & Wash
4:39	4:40	5:00	5:05
4:54	4:55	5:15	5:20
5:04	5:05	5:25	5:30

The Following Legal Holidays will apply: New Year's Day, Memorial Day, 4th of July, Labor Day, Thanksgiving and Christmas.

NO SATURDAY, SUNDAY, OR HOLIDAY SCHEDULE

SUBJECT TO CHANGE WITHOUT NOTICE

FIGURE 17 BANFIELD FLYER RIDERSHIP



In addition to the Banfield Flyer buses, three other lines use the HOV lanes as a part of their normal routes. Line #17, Fremont Express, enters the Banfield Freeway at 102nd Avenue and uses the HOV lane until it exits at the Lloyd Center where it uses arterial streets to the CBD. The Troutdale bus, Line #18, travels on city streets to the vicinity of 82nd Avenue where it enters the Banfield and uses the HOV lanes to the Lloyd Center exit. A third line, #44 Gresham/Lloyd, also enters the Banfield at 82nd Avenue and exits at the Lloyd Center (Figure 18). The outbound runs also use the Banfield from the Lloyd Center area to the 82nd-102nd Avenue exits. There are several other bus lines that use the Banfield but they enter and exit before the HOV lane sections. Only the Banfield Flyers were monitored for ridership changes because it was felt that they offered the highest commuter-use incentive, made more use of the preferential lanes than other transit lines and would thus provide the best indication of project effectiveness in attracting transit users.

COMBINING ALL FIVE BUS ROUTES, THERE ARE 58 BUSES OPERATING IN THE HOV LANE DURING RESTRICTED HOURS (TABLE 5). THE MORNING PERIOD (6:30 - 9:30 AM) HAS 28 BUSES SCHEDULED WHILE THE EVENING PERIOD (3:30-6:30 PM) HAS 30 BUSES.

FIGURE : BANFIELD BUS ROUTES

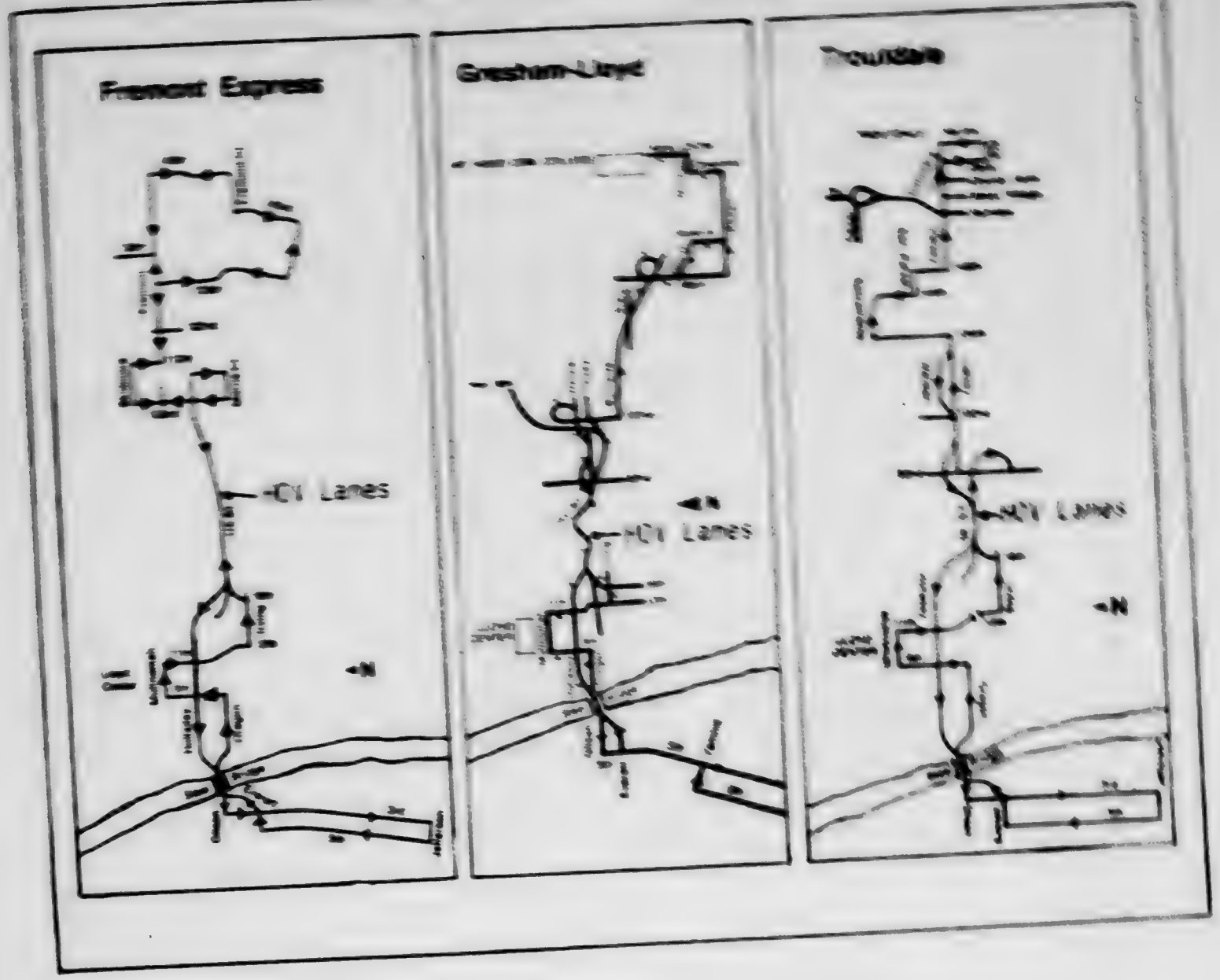


FIGURE 12 BANFIELD BUS ROUTES

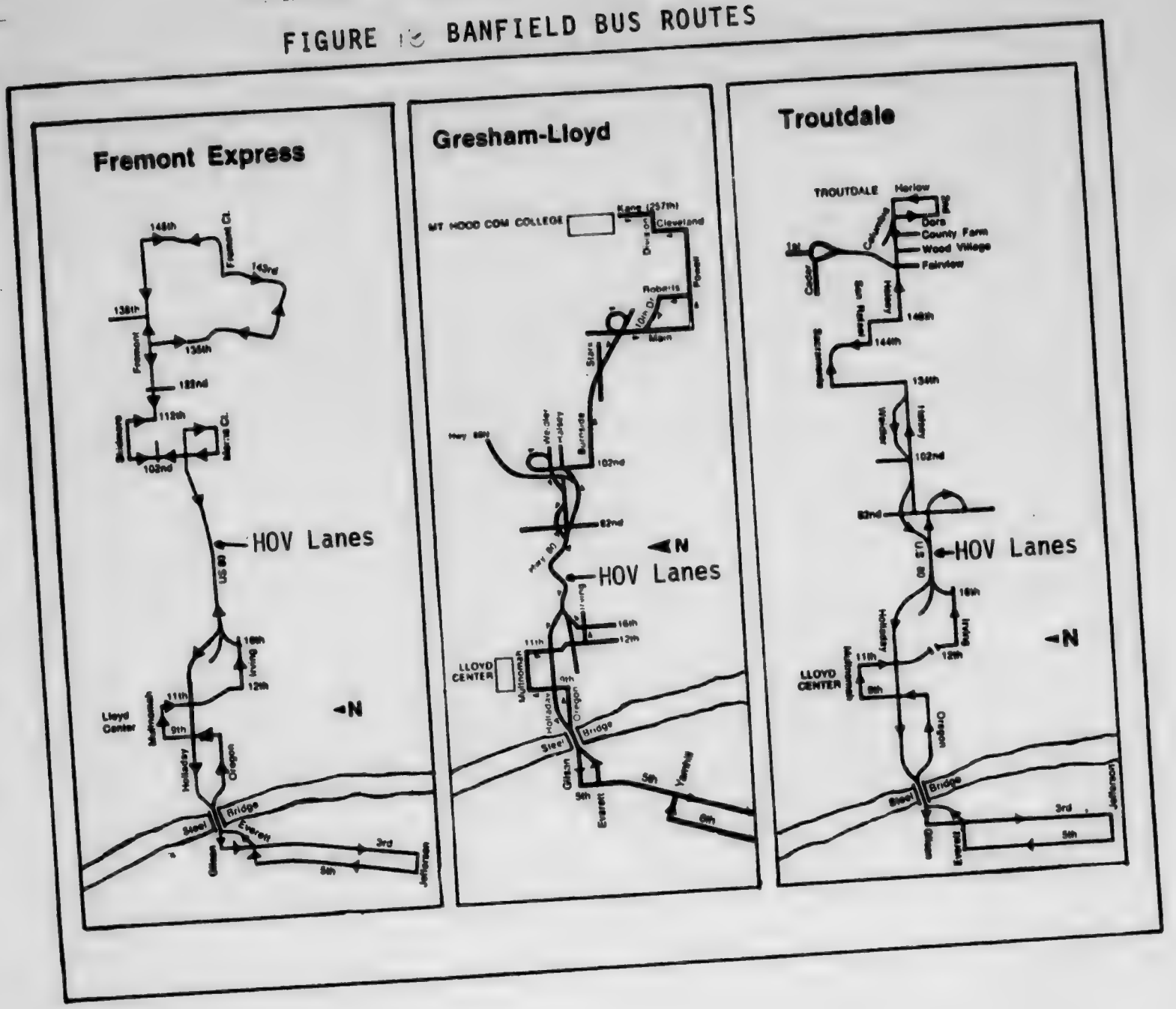


TABLE C HOV LANE BUS SCHEDULES*

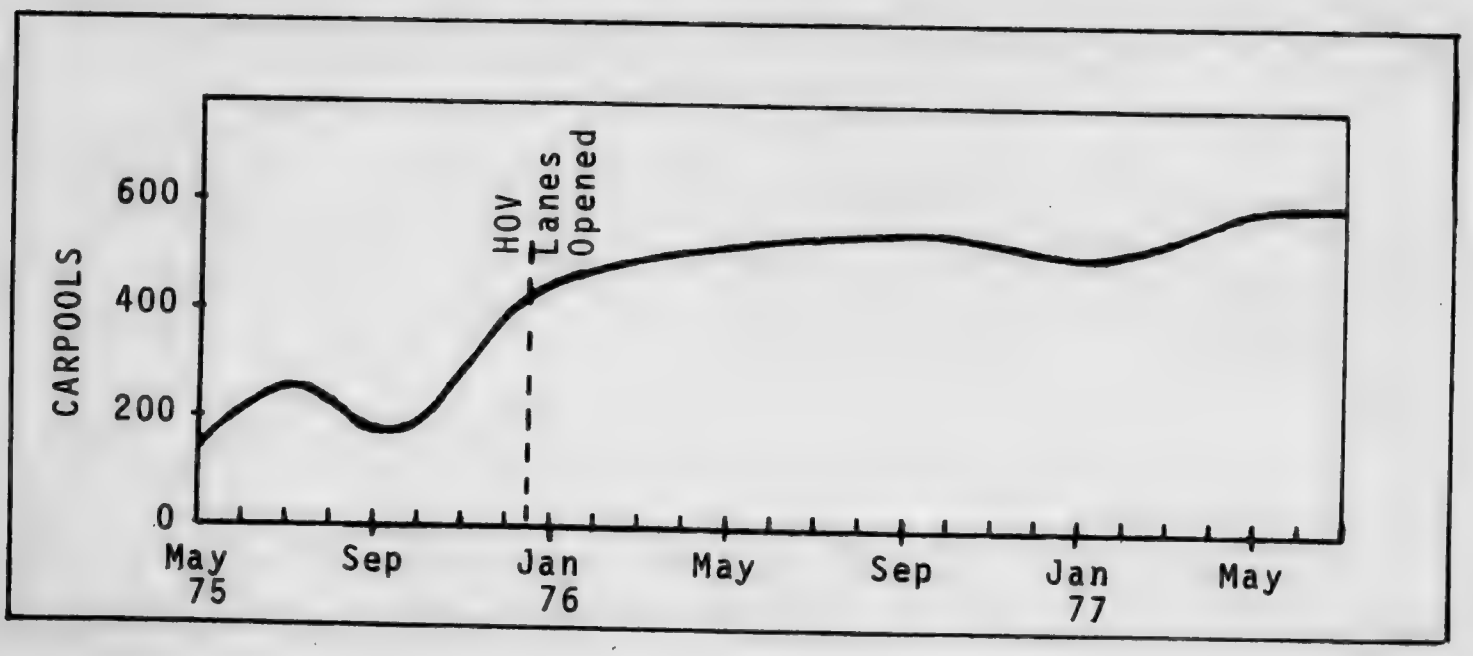
WESTBOUND (6:30-9:30 AM)		EASTBOUND (3:30-6:30 PM)	
Approximate Time at 53rd Avenue	Bus Route	Approximate Time at 53rd Avenue	Bus Route
6:53	Gresham-Lloyd	3:56	Gresham-Lloyd
6:59	Fremont Express	3:58	Troutdale
7:04	Troutdale	4:00	Fremont Express
7:07	Banfield Flyer (Fairview)	4:21	Gresham-Lloyd
7:12	Banfield Flyer (Mall 205)	4:22	Troutdale
7:12	Banfield Flyer (Fairview)	4:35	Fremont Express
7:24	Fremont Express	4:41	Gresham-Lloyd
7:24	Troutdale	4:42	Troutdale
7:30	Banfield Flyer (Fairview)	4:48	Banfield Flyer (Fairview)
7:32	Banfield Flyer (Mall 205)	4:48	Banfield Flyer (Mall 205)
7:33	Gresham-Lloyd	4:53	Banfield Flyer (Fairview)
7:34	Banfield Flyer (Fairview)	4:57	Troutdale
7:37	Troutdale	5:00	Fremont Express
7:39	Banfield Flyer (Fairview)	5:03	Banfield Flyer (Fairview)
7:53	Gresham-Lloyd	5:03	Banfield Flyer (Mall 205)
7:55	Troutdale	5:06	Gresham-Lloyd
7:59	Fremont Express	5:13	Banfield Flyer (Fairview)
8:02	Banfield Flyer (Fairview)	5:13	Banfield Flyer (Mall 205)
8:07	Banfield Flyer (Fairview)	5:17	Troutdale
8:08	Banfield Flyer (Mall 205)	5:18	Banfield Flyer (Fairview)
8:09	Troutdale	5:23	Banfield Flyer (Fairview
8:13	Gresham-Lloyd	5:30	Fremont Express
8:29	Fremont Express	5:31	Gresham-Lloyd
8:34	Troutdale	5:42	Troutdale
8:38	Troutdale	5:43	Banfield Flyer (Fairview)
8:39	Fremont Express	6:00	Fremont Express
9:04	Troutdale	6:01	Gresham-Lloyd
9:23	Gresham-Lloyd	6:02	Troutdale
		6:27	Troutdale
		6:30	Fremont Express

* June 13, 1977 Schedules

4.2 Carpooling

Carpooling has increased on the Banfield from 106 carpools in April 1975, during the AM and PM peak hours, to 518 carpools in June 1977. There was a rapid increase of 275 carpools shortly after the opening of the HOV lanes; and since June 1976, the number has stabilized at around 500 carpools daily during the peak rush periods. Of the total number of carpools on the Banfield, 72 percent were traveling in the HOV lanes at the 47th Avenue counting station. Due to the close proximity of the 58th Avenue on-ramp and the 42nd Avenue off-ramp, a number of AM westbound carpools were probably not counted in the HOV lane due to either not having enough time to merge over to the HOV lane or having already left the HOV lane ~~for the~~ to exit. In addition, difficulties encountered by PM eastbound carpools attempting to merge over to the HOV lanes near 44th Avenue, and the close proximity of the 57th Avenue off-ramp prevented a number of eastbound carpools from entering the HOV lanes by the 47th Avenue counting station. Therefore, all carpools in all lanes as well as carpools in the HOV lanes are plotted in Figure .

FIGURE 17 BANFIELD FREEWAY CARPOOLS
DURING PEAK RUSH HOUR PERIODS



4.3 Banfield User Survey

Late in 1976 the Banfield Technical Advisory Committee (TAC) decided to conduct a major survey of Banfield users. The objective of the survey would be to determine what factors influenced user travel mode, with the results being used to design marketing strategies and update the 1973 Banfield Traffic Study. The two major components of the survey, bus ridership and carpools, are treated separately in the following sections.

4.3.1 Transit Ridership Survey

A Banfield Flyer ridership survey was conducted in January of 1976, just after the HOV lanes had opened. The survey was very limited in scope, consequently, the TAC determined that a more intensive survey was needed to gain an accurate demographic profile of the bus riders and the characteristics of their trips. The survey was conducted on 20 April 1977 of all inbound riders boarding the Banfield Flyer Lines #90 and #91. A copy of the survey form is represented in Figure . Questionnaires were distributed by the bus driver and completed either on the bus or returned later by mail. A total of 310 questionnaires were distributed and 249, or 80% were returned.

RESPONSES TO THE QUESTIONAIRE

The ~~results of the survey~~ are presented in the same order as they appeared on the survey form.

a. "Please identify the intersection or crossroads nearest your home"

Table shows rider origin by boarding point. Figures and are census target maps for the study area with Banfield Flyer routes and locations of park-and-ride stations shown.

Riders of Line #90 are attracted from several census tracts in east Multnomah County near both the Mall 205 and Silver Skate park-and-ride lots. The tracts with the predominate number of riders include those bounded by the Banfield Freeway, 122nd Avenue, S.E. Division Street and 96th Avenue (Table , Figure).

Riders of line #91 are primarily attracted from census tracts 103 and 104.01 which account for 50% of this line's ridership. These tracts include the areas of Wood Village, Troutdale and the eastern portions of Gresham (Table , Figure). Multnomah Kennel Club is the most highly used park-and-ride lot, serving 54 percent of all Banfield Flyer riders.

b. "Please identify the intersection closest to your place of work or school."

92 percent of the riders indicated destinations in the downtown areas of Portland. Of this 92 percent almost 54 percent were headed for an eight by thirteen block area in the CBD. There were only a few destinations outside of the downtown area which meant that the riders had to transfer to another bus to complete the trip.

FIGURE 20 BANFIELD FLYER SURVEY FORM

BANFIELD FLYER SURVEY

SURVEY NUMBER

Boarding Bus Stop ☐

The Banfield High Occupancy Vehicle Lanes have been in operation since December, 1975. Tri-Met, CARPOOL, and the Oregon State Highway Division, co-sponsors of this program, are interested in knowing if your commuting habits have changed as the result of this experimental program. We would appreciate a few minutes of your time to answer the following questions.

A. Please identify the intersection or crossroads nearest to your home.

_____ ☐☐☐
Street Nearest Cross Street City
(Example: 223rd and Glisan Street)

B. Please identify the intersection closest to your place of work or school.

_____ ☐☐☐
(Example: 5th and Yamhill)

C. Please indicate your boarding point. ☐

☐ Mt. View Christian Church
☐ Reynolds High School
☐ Mall 205
☐ Multnomah Kennel Club
☐ 181st and Halsey
☐ Silver Skate

D. How did you arrive at the Park and Ride lot today?

☐ 1. Car, drove alone.
☐ 2. Carpool driver.
☐ 3. Carpool Passenger.
☐ 4. Car, dropped off.
☐ 5. Bus.
☐ 6. Walked.
☐ 7. Other (please explain)
_____ ☐

E. What time does you work shift begin? _____ ☐☐☐☐

F. What time does your work shift end? _____ ☐☐☐☐

G. When did you start using the Banfield Flyer service? _____ ☐☐☐
Month and Year

H. How did you get to work or school before you started to use the Banfield Flyer service?

☐ 1. Car, drove alone.
☐ 2. Two-person carpool.
☐ 3. Three-person carpool
☐ 4. Another bus, Line # _____ ☐☐
☐ 5. Other (please specify)
_____ ☐

I. If you formerly traveled by car, which route did you normally use prior to the Banfield HOV lane?

☐ 1. Banfield.
☐ 2. Burnside.
☐ 3. Sandy.
☐ 4. Glisan.
☐ 5. Other route (please specify)
_____ ☐

J. Which factors had the greatest effect on your decision to ride the Banfield Flyer? Check as many as apply to you.

- ☐ 1. Cost savings.
- ☐ 2. Travel time savings.
- ☐ 3. Non-stop service.
- ☐ 4. Convenience.
- ☐ 5. No automobile available.
- ☐ 6. Other (please specify)

_____ ☐☐☐

K. How did you learn about the Banfield Flyer service? Please check as many as apply.

- ☐ 1. Newspaper.
- ☐ 2. Highway signs on the Banfield.
- ☐ 3. Posters.
- ☐ 4. Brochures.
- ☐ 5. Employer.
- ☐ 6. Radio.
- ☐ 7. TV.
- ☐ 8. Billboards.
- ☐ 9. Other (please specify)

☐☐☐

☐

L. Which trips do you ride?

- ☐ 1. A.M. only.
- ☐ 2. P.M. only.
- ☐ 3. Both.

M. How often do you ride the Banfield Flyer service? ☐

- ☐ 1. Every weekday.
- ☐ 2. About three to four days a week.
- ☐ 3. One or two days a week.
- ☐ 4. One to three days a month.
- ☐ 5. One to ten days a year.

N. How many automobiles are in operating condition at your residence? ☐

- ☐ 1. None.
- ☐ 2. One auto.
- ☐ 3. Two autos.
- ☐ 4. Three or more autos.

O. Which increased activity do you think would do the most to improve air quality in the Portland region?

- ☐ 1. Mass Transit.
- ☐ 2. Carpooling.
- ☐ 3. Vehicle emission inspection.
- ☐ 4. Traffic flow improvements.
- ☐ 5. Other (please specify)

_____ ☐

P. Please indicate your age. ☐

- ☐ 1. Under 20.
- ☐ 2. 20 to 44.
- ☐ 3. 45 to 64.
- ☐ 4. 65 or over.

Q. Please indicate your sex. ☐

- ☐ 1. Male.
- ☐ 2. Female.

R. Please indicate your annual family income (before taxes). ☐

- ☐ 1. Under $5,000
- ☐ 2. $5,000 to $9,999.
- ☐ 3. $10,000 to $14,999.
- ☐ 4. $15,000 or over.
- ☐ 5. Don't know.

S. Would you recommend any improvements for the Banfield Flyer service, or do you have any comments concerning the H.O.V. lanes?

_____

_____

TABLE 7 ORIGIN ZONE BY BOARDING POINT

	LINE #90			LINE #91				
	Mall 205	Silver Skate	Total	Mt. View	Reynolds	MKC	Halsey	Total
16.01	1	0	1	0	0	0	0	0
16.02	1	0	1	0	0	0	0	0
17.02	0	2	2	0	0	0	0	0
24.02	0	1	1	0	0	0	0	0
79.00	0	1	1	0	0	0	0	0
80.01	0	7	7	0	0	0	0	0
80.02	1	3	4	0	0	0	0	0
81.00	0	5	5	0	0	0	0	0
82.01	2	0	2	0	0	0	0	0
82.02	3	0	3	0	0	0	0	0
84.00	2	0	2	0	0	0	0	0
89.00	1	0	1	0	0	0	0	0
91.00	2	0	2	0	0	0	0	0
92.01	4	0	4	0	0	0	0	0
93.00	0	5	5	0	0	0	1	1
94.00	0	2	2	0	0	0	0	0
95.00	0	3	3	0	0	0	1	1
96.01	1	0	1	0	1	1	6	8
96.02	0	1	1	0	4	3	6	13
97.01	1	1	3	0	0	0	0	0
97.02	1	1	2	0	1	0	0	1
98.01	0	0	0	0	1	0	1	2
98.02	0	0	0	0	0	2	0	2
100.00	0	0	0	7	0	19	0	26
101.00	0	0	0	0	5	10	0	15
102.00	0	0	0	0	1	2	0	4
103.00	0	0	0	1	3	38	0	42
104.01	0	0	0	11	1	36	1	49
105.00	0	0	0	0	0	4	0	4
232.00	0	0	0	1	0	2	0	3
233.00	0	0	0	0	0	3	0	3
234.00	0	0	0	1	0	8	0	9
Total	21	32	53	21	17	129	16	183
% of total	9%	13%	(22%)	9%	7%	54%	6%	(76%)

FIGURE 21 BUS RIDERSHIP CENSUS TRACTS - LINE #90

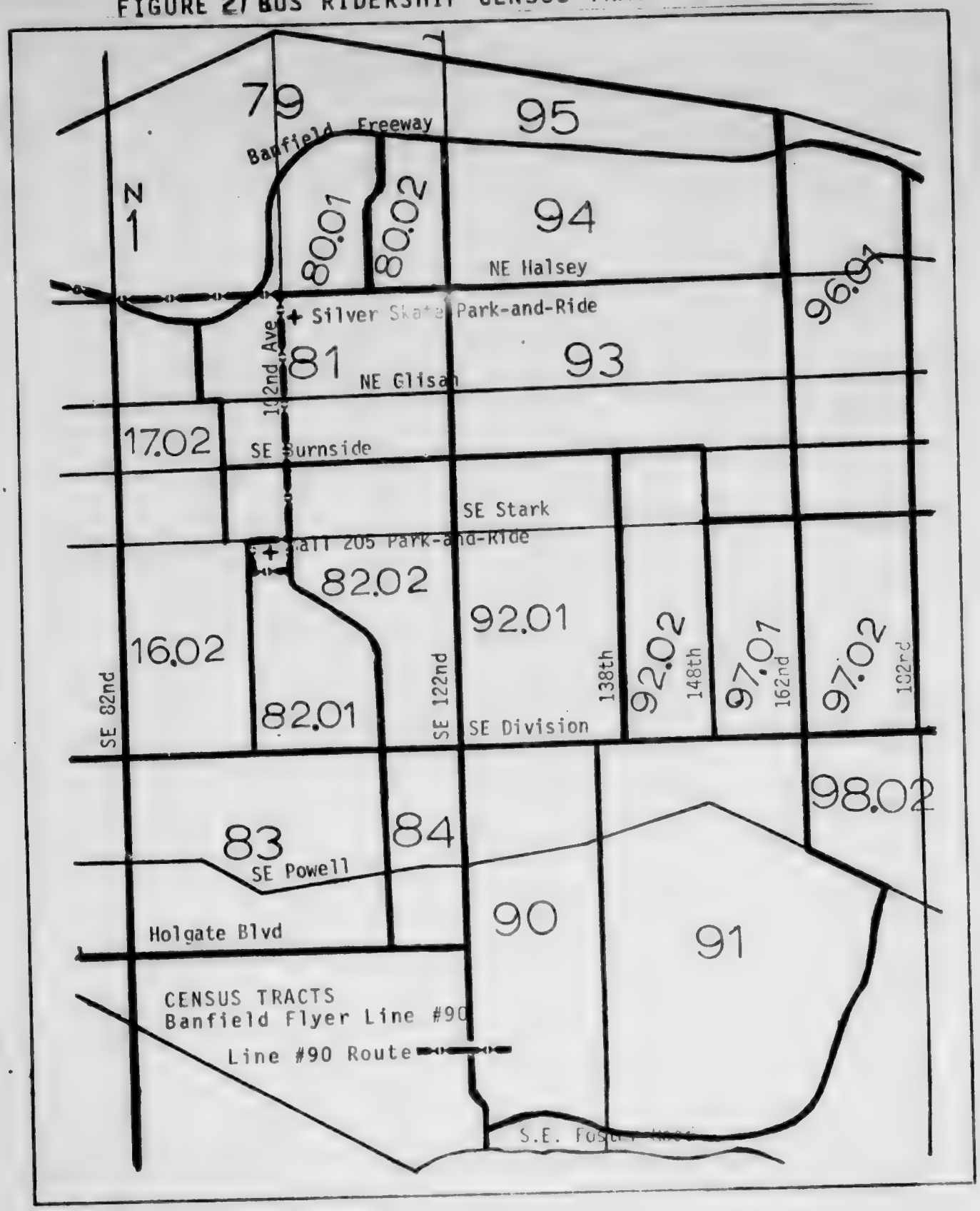
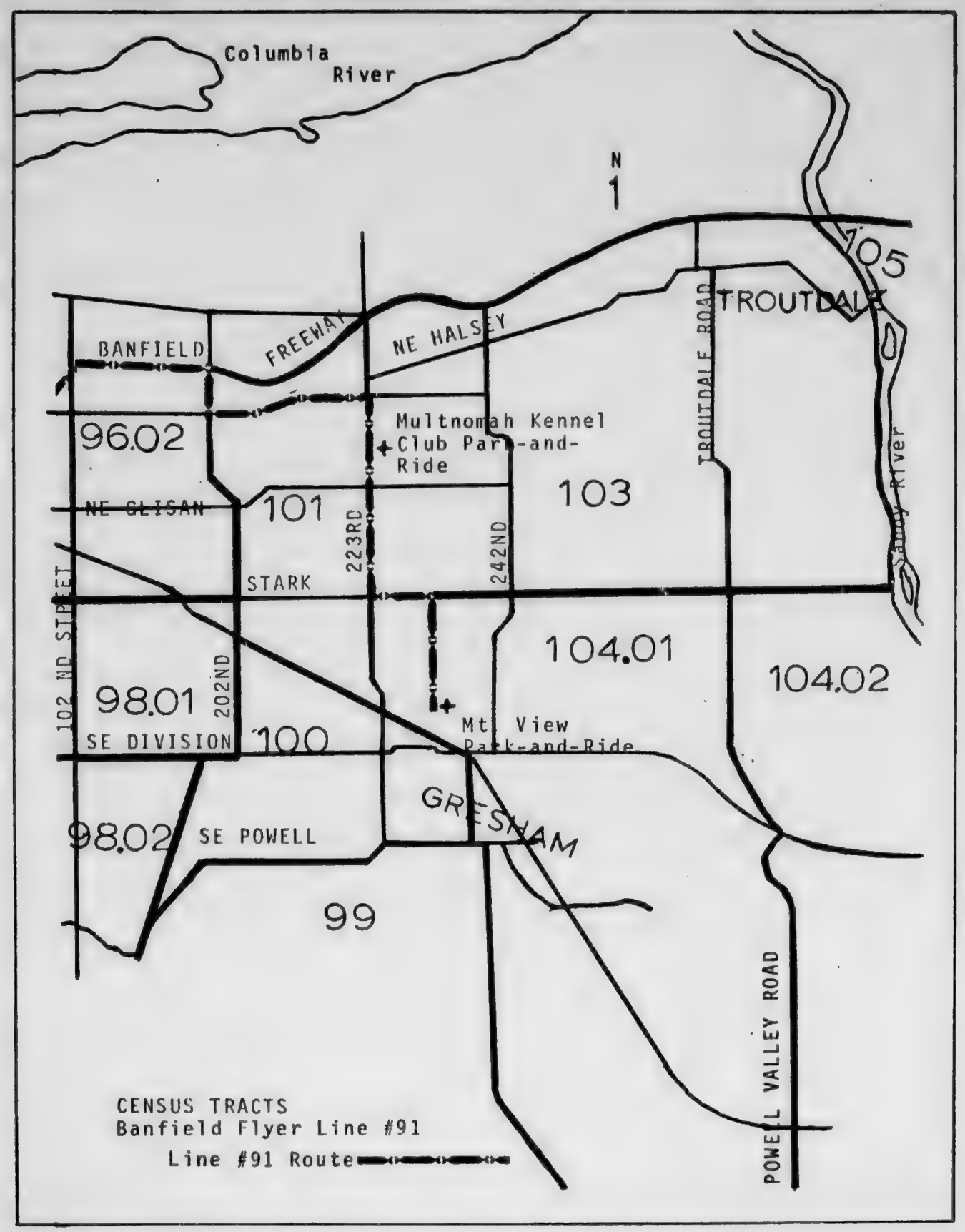


FIGURE 7? BUS RIDERSHIP CENSUS TRACTS - LINE #91



c. "How did you arrive at the park-and-ride lot today?"

About 55 percent of the riders drive alone to the park-and-ride lots while 15 percent arrive in carpools. Another 14 percent are dropped off at the park-and-ride lots and 12 percent walk. These percentages differ slightly from 1976 survey when 58 percent drove alone, 18 percent were dropped off and 8 percent walked. Carpoolers were the same in both surveys at 15 percent.

d. "What time does your work shift begin?"

Ridership is concentrated around arrival times of: 7:30 AM (14 percent), 8:00 AM (43 percent) and 8:30 AM (30 percent). This is significantly different from results of the 1976 survey. At that time ridership was fairly evenly distributed between four arrival times: 7:30 AM (19 percent), 7:45 AM (23 percent), 8:00 AM (29 percent) and 8:15 AM (24 percent). In the 1976 survey, only 4 percent indicated an 8:30 AM arrival time.

e."What time does your work shift end?"

4:30 PM and 5:00 PM were the response given by 70 percent of those surveyed, with 45 percent departing from work at 5:00 PM.

f. "When did you start using the Banfield Flyer?"

A majority (58 percent) of riders surveyed started using the service in 1976; 24 percent in the fourth quarter of that year. 15 percent indicated they had been riding the Flyer from the beginning of its service. About 26 percent began in 1977. New ridership appears to be increasing; 8 percent of the total respondents began riding the Flyers in the first 20 days of April, 1977.

g. "How did you get to work or school before you started to use the Banfield Flyer Service?"

44 percent of the respondents indicated they are former automobile drivers or passengers. This is nearly the same as the 40 percent in the 1976 survey. A total of 47 percent formerly rode another bus. This is down from 58 percent in 1976.

h. "If you used another bus which line did you take?"

The #18 Troutdale and #19 East Glisan/Division were the most frequently mentioned former bus routes.

i. "If you formerly traveled by car, which route did you normally use prior to the Banfield HOV lane?"

A majority of the riders (63 percent) who formerly traveled by car used the Banfield route.

TABLE - PREVIOUS TRAVEL ROUTES

Route	Number of Respondents	Percent of former car riders or drivers
Banfield	100	63
Burnside	14	9
Sandy	4	2
Glisan	5	3
Other route	36	23
	159	100

j. "Which factors had the greatest effect on your decision to ride the Banfield Flyer? Check as many as apply to you."

Non-stop service and cost savings ranked nearly equal as the most significant factors in attracting persons to the Banfield Flyers; about 69 percent cited non-stop service and 67 percent indicated cost savings. Travel time savings was important to 56 percent of the riders. These results show dramating differences from the 1976 survey. Cost savings rose significantly as a factor in using the Banfield service, from 46 percent in 1976 to 67 percent in 1977. Travel time and convenience have declined in significance, from 72 percent to 56 percent and 56 percent to 32 percent respectively.

k. "How did you learn about the Banfield Flyer service? Please check as many as apply to you."

Brochures were cited by 33 percent of the riders as their source of information about the Banfield Flyer service. Newspapers were next with 32 percent. This is a significant change from 1976. At that time brochures were not listed as one of the categories for response but newspapers were an influencing factor to 59 percent of the respondents. Most of the other sources of information also decreased in importance from 1976; posters from 30 percent to 12 percent, radio from 28 percent to 8 percent, TV from 28 percent to 9 percent, and billboards from 28 percent to 4 percent. Only highway signs remained approximately the same, with 26 percent in 1976 and 24 percent in 1977. "Employers", which was not listed in 1976, reached 4% of the riders. The largest percentage (38 percent) indicated "other" sources -- this is little change from 1976 when 40 percent responded with this reason.

l. "Which trips do you ride?"

Nearly all (90 percent) of the riders use the service both to and from work or school.

m. "How often do you ride the Banfield Flyer service?"

About 82 percent of the respondents ride the Flyer every weekday and another 14 percent ride three or four days a week. Less than 1 percent indicate they are occasional riders.

n. "How many automobiles are in operating condition at your residence?"

The largest percentage of riders (44 percent) indicate having two operating autos at their residence. Nearly all (96 percent) have at least one car.

o. "Which increased activity do you think would do the most to improve air quality in the Portland region?"

Increased mass transit was selected by 82 percent of the respondents as the activity which would do the most to improve air quality. There was very little support for any of the other options.

p. "Please indicate your age."

A large majority (79 percent of riders are between the ages of 20 and 44. Another 18 percent fall in the 45 to 65 age group. Only 3 percent are under 20 or over 64.

q. "Please indicate your sex."

The respondents were 60 percent female and 39 percent male.

r. "Please indicate your annual family income (before taxes)."

54 percent indicated an annual family income of $15,000 or more, 21 percent had annual income between $10,000 and $14,999, and only 2 percent had a family income under $5,000.

s. "Would you recommend any improvements for the Banfield Flyer service, or do you have any comments concerning the HOV lanes?"

The two major categories of comments received were compliments on the service and suggestions on scheduling.

4.3.2 Carpool Survey

AUTOMOBILE

A commuter survey of people using the Banfield Freeway during the AM peak period was conducted during the first week of November, 1976. The survey sampled both users of the HOV lane and non-users in the normal lanes. The survey was designed by the Banfield TAC with the following objectives in mind:

a. Determine the origin and destination of people using the Banfield Freeway in order to detect any major changes that may have occurred since the 1973 traffic survey.

b. Determine user opinion of the HOV lane concept.

c. Discover reasons for resistance to carpooling or riding the bus by Banfield commuters.

d. Discover reasons why HOV lane users were prompted to form carpools.

e. Determine the mode and route carpoolers used prior to the opening of the HOV lanes.

f. Ascertain how people first learned about the HOV lanes so that the effectiveness of various publicity mediums could be evaluated.

g. Learn what people think would do the most good toward improving air quality.

Various methods for taking the survey were explored by the TAC. Some of the methods were unworkable from either logistical and/or safety standpoints and had to be disregarded. A mailout survey was selected and two different questionnaires were prepared, one for users of the HOV lane (carpoolers) and one for the non-users of the lane.

The license numbers of vehicles using the Banfield were randomly gathered during the first week in November. Oregon State Highway Division personnel recorded the license numbers of vehicles heading west toward the Portland Central Business District between the hours of 7:00 and 9:00 AM on weekdays. Those vehicles were observed from the 47th Avenue structure and the 39th Avenue westbound emergency parking bay. 2,250 license numbers of non-HOV lane users were recorded from both the center and right lanes of the freeway, and 250 license numbers of HOV lane users were recorded from the HOV lane of the freeway. These totals represented a sample size of 30 percent of all non-HOV lane users and 75 percent of all HOV users westbound on the Banfield between the hours of 7:00 and 9:00 AM. The license numbers were processed by the Oregon State Motor Vehicles Division through their computer which listed the names and addresses of the vehicle owners. The non-HOV lane users' questionnaire was enclosed in an envelope with a return addressed, prepaid envelope. The HOV lane users received three colored questionnaires and three return envelopes. The carpool driver who received these questionnaires was instructed to fill out the yellow questionnaire and give the two pink questionnaires to his passengers to be filled out and returned. All questionnaires were numbered and coded to identify WHICH QUESTIONNAIRES WERE RETURNED. The mailout was made on 16 November 1976 and by the cut-off date of 13 January 1977, 837 non-user responses and 269 carpool and passenger responses had been received.

The survey results are presented as they appeared on the questionnaire forms shown as Figures 23 and 26. Returns of the carpool drivers and passengers are discussed first.

FIGURE 23 CARPOOL DRIVERS AND PASSENGERS SURVEY FORM

PLEASE HELP TO PLAN FOR BETTER TRANSPORTATION AND CLEAN AIR

We are surveying the people who used the Banfield Freeway during the A.M. the first week in November. You can help us in our evaluation of the experimental High-Occupancy Vehicle (H.O.V.) Lane project by answering the following questions.

OREGON DEPARTMENT OF TRANSPORTATION

☐☐☐☐☐☐☐☐☐ 1 9

1. **WHERE WERE YOU COMING FROM?**

   _____ Number _____ Street _____ City ☐☐☐ 11 13

2. **WHERE WERE YOU GOING TO?**

   _____ Number _____ Street _____ City ☐☐☐ 15 17

3. **HOW DID YOU NORMALLY COMMUTE PRIOR TO USING THE BANFIELD H.O.V. LANE?**

   Bus ☐ 19 Drove Alone ☐ 20 2-Person Carpool ☐ 21 3-or-more Person Carpool ☐ 22

4. **WHICH ROUTE DID YOU NORMALLY USE PRIOR TO THE BANFIELD H.O.V. LANE?**

   Banfield ☐ 24 Sandy ☐ 25 Burnside ☐ 26 Glisan ☐ 27 Other ☐ 28 _____

5. **HOW DID YOU FIRST HEAR ABOUT BANFIELD H.O.V. LANES?**

   Newspaper ☐ 30 Radio ☐ 31 Television ☐ 32 Employer ☐ 33 Brochures ☐ 34

   Billboards ☐ 35 Signs on Banfield ☐ 36 Other ☐ 37 _____

6. **WHAT INCENTIVE CONTRIBUTED MOST TO THE FORMATION OF YOUR CARPOOL?**

   Cost Savings ☐ 39 Time Savings ☐ 40 Convenience ☐ 41 Employer Incentives ☐ 42

   Environmental Concerns ☐ 43 Other ☐ 44 _____

7. **WHICH INCREASED ACTIVITY DO YOU THINK WOULD DO THE MOST TO IMPROVE AIR QUALITY?**

   Mass Transit ☐ 46 Carpooling ☐ 47 Vehicle Emission Inspection ☐ 48

   Traffic Flow Improvements ☐ 49 Other Factor ☐ 50 _____

8. **CAN YOU RECOMMEND ANY IMPROVEMENTS TO, OR DO YOU HAVE ANY COMMENTS CONCERNING THE H.O.V. LANES?**

   _____

   _____

   _____ 52

NO POSTAGE NEEDED

4.3.2.1 Carpool Drivers and Passengers Responses

The results are reported in the same order as they appeared on the survey form.

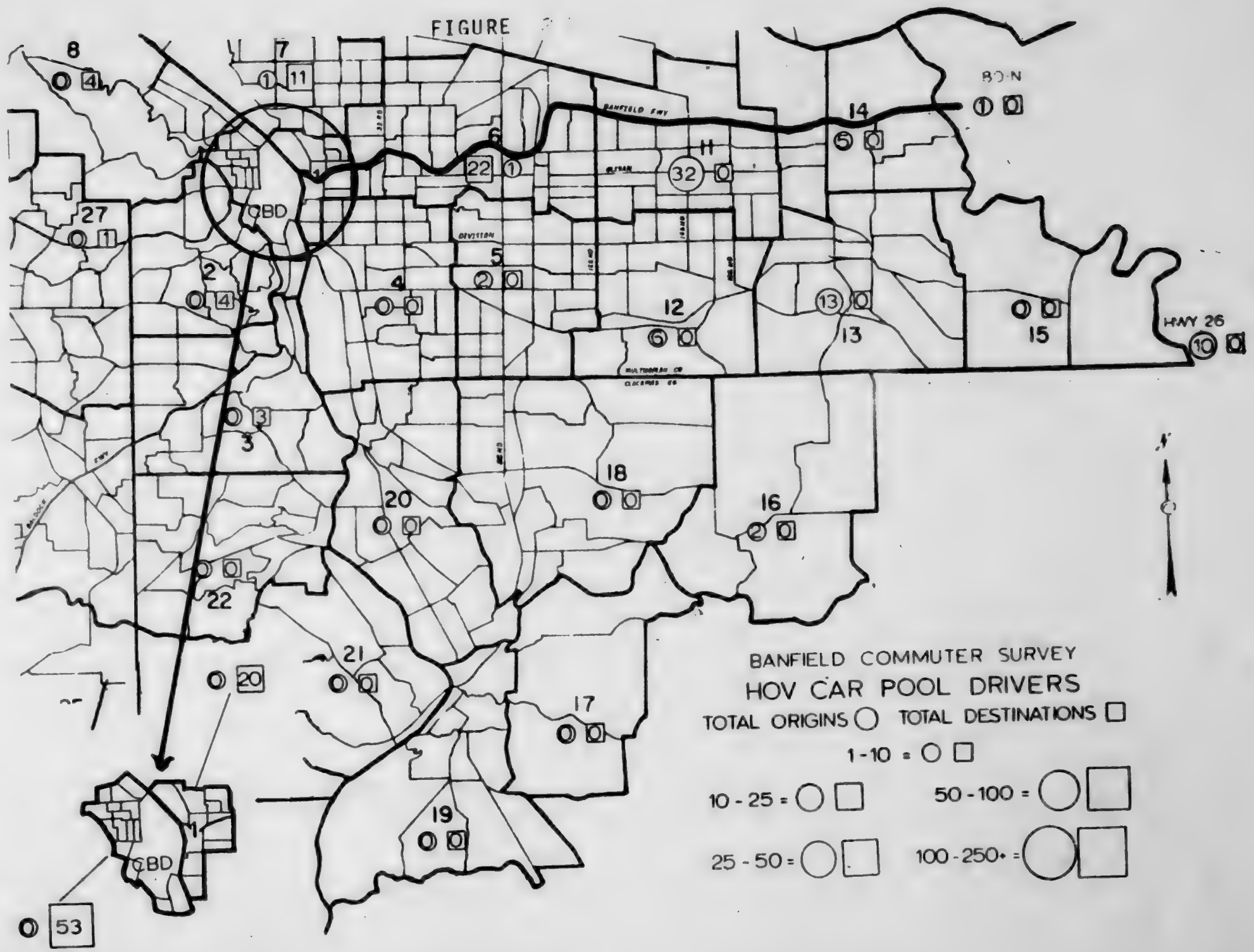
1) "Where Were You Coming From?"

Referring to Table 9 and Figure 23, 25 percent of the drivers who responded indicated an origin west of 122nd Avenue in zones 5 and 6, 39 percent between 122nd Avenue and 202nd Avenue in zones 11 and 12, and 18 percent in zones 13 and 14. The area east of 282nd Avenue and on Highway 26 and I-80N generated 11 percent of the origins.

TABLE 9 ORIGINS AND DESTINATIONS - CARPOOL DRIVERS

Area No.	Number Origins	Number Destinations	Percent Origins	Percent Destinations
CBD	0	53	0.00	51.96
1	0	20	0.00	19.61
2	0	4	0.00	3.92
3	0	3	0.00	2.94
4	0	0	0.00	0.00
5	2	0	2.04	0.00
6	22	1	22.45	0.98
7	1	11	1.02	10.78
8	0	4	0.00	3.92
11	32	0	32.65	0.00
12	6	0	6.12	0.00
13	13	0	13.27	0.00
14	5	0	5.10	0.00
15	0	0	0.00	0.00
16	2	0	2.04	0.00
17	0	0	0.00	0.00
18	0	0	0.00	0.00
19	0	0	0.00	0.00
20	0	0	0.00	0.00
21	0	0	0.00	0.00
22	0	0	0.00	0.00
27	0	1	0.00	0.98
HWY 26	10	0	10.20	0.00
I-5	0	1	0.00	0.98
I-80N	1	0	1.02	0.00
Misc	4	4	4.08	3.92

FIGURE

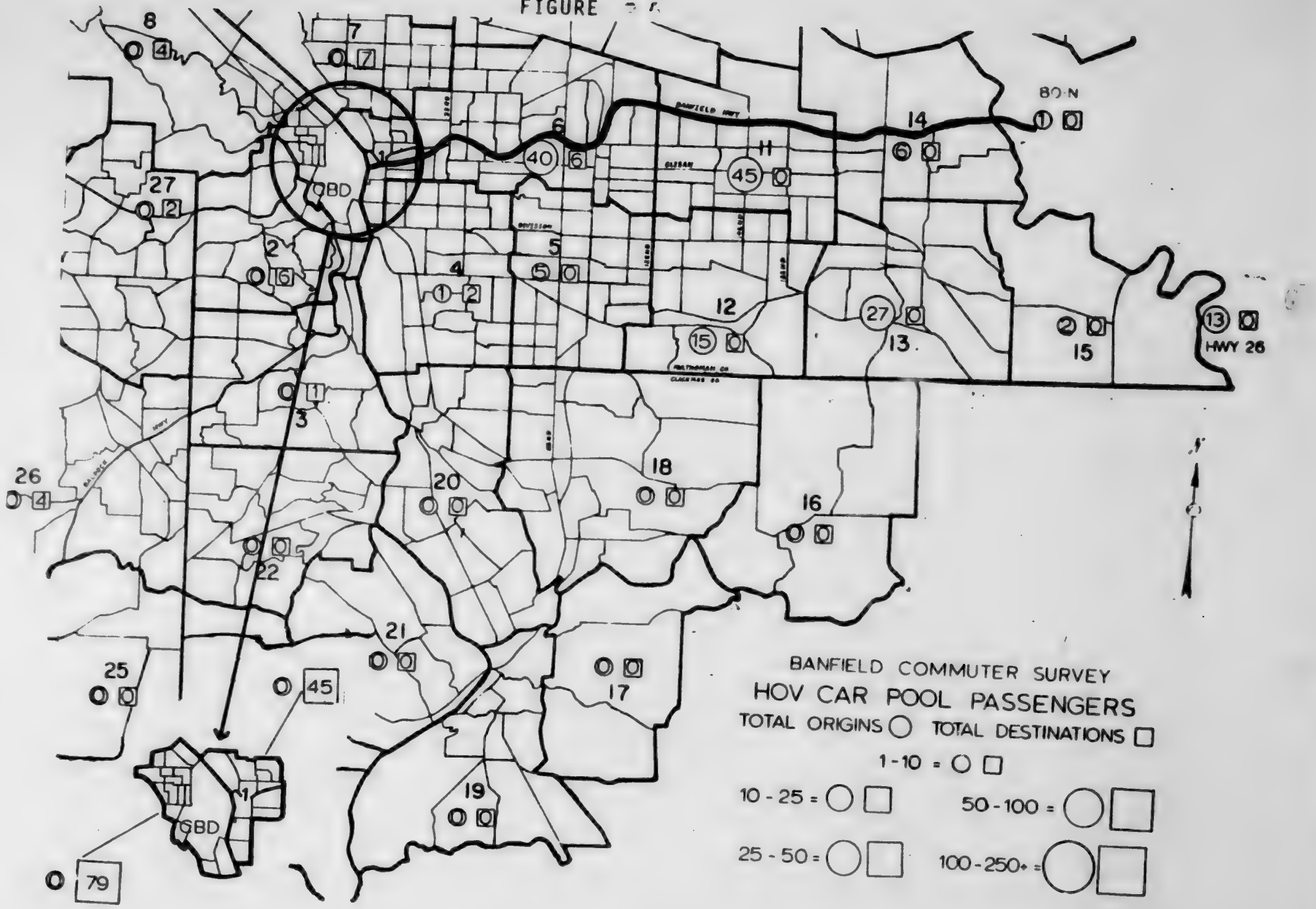

8
4
7
11
1
6
22
1
BANFIELD FWY
14
5
BO-N
1
11
32
27
1
CBD
DIVISION
5
2
2
4
4
12
6
13
13
15
HWY 26
10
3
3
18
20
16
22
21
20
17
19
1
CBD
53
BANFIELD COMMUTER SURVEY
HOV CAR POOL DRIVERS
TOTAL ORIGINS TOTAL DESTINATIONS
1-10 =
10-25 =
50-100 =
25-50 =
100-250+ =

The passenger responses (Figure 23, Table 9) indicated that 29 percent began their trips in zones 5 and 6 west of 122nd Avenue, 38 percent in zones 11 and 12 between 122nd and 202nd Avenues, and 21 percent in zones 13 and 14. 9 percent originated east of 282nd Avenue and on Highways 26 and I-80N.

TABLE 10 ORIGINS AND DESTINATIONS - CARPOOL PASSENGERS

Area No.	Number Origins	Number Destinations	Percent Origins	Percent Destinations
CBD	0	79	0.00	49.07
1	0	45	0.00	27.95
2	0	6	0.00	3.73
3	0	1	0.00	0.62
4	1	2	0.64	1.27
5	5	0	3.18	0.00
6	40	6	25.48	3.73
7	0	7	0.00	4.35
8	0	4	0.00	2.48
11	45	0	28.60	0.00
12	15	0	9.55	0.00
13	27	0	17.20	0.00
14	6	0	3.82	0.00
15	2	0	1.27	0.00
16	0	0	0.00	0.00
17	0	0	0.00	0.00
18	0	0	0.00	0.00
19	0	0	0.00	0.00
20	0	0	0.00	0.00
21	0	0	0.00	0.00
25	0	0	0.00	0.00
26	0	4	0.00	2.48
27	0	2	0.00	1.24
HWY 26	13	0	8.28	0.00
I-5	0	0	0.00	0.00
I-80N	1	0	0.64	0.00
Misc	2	3	1.27	1.24

FIGURE



BANFIELD COMMUTER SURVEY

HOV CAR POOL PASSENGERS

TOTAL ORIGINS ○ TOTAL DESTINATIONS □

1 - 10 = ○ □

10 - 25 = ○ □

25 - 50 = ○ □

50 - 100 = ○ □

100 - 250+ = ○ □

2) "Where Were You Going To?"

52 percent of the drivers were estined for the Central Business District. Zone 1 was the destination for 19 percent of the remaining drivers.

The Central Business District was the destination of 49 percent of the carpool passengers and 28 percent were bound for the Lloyd Center vicinity in zone 1.

3) "How Did You Normally Commute Prior To Using The Banfield HOV Lanes?"

Prior to the opening of the HOV lanes carpool drivers were equally divided into three categories--they drove alone, were in a two person carpool, or were in a three person carpool. The majority of carpool passengers indicated that they either rode the bus or were in three person carpools prior to the opening of the HOV lanes. The responses reveal that carpools obtain many of their passengers from former bus riders and carpoolers. However, 20 percent of the carpool passengers drove alone prior to forming a carpool in response to the HOV lane incentive. (TABLE —).

TABLE II PRIOR COMMUTING HABITS

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Bus	4	3.74	45	26.96
Drove Along	31	28.97	33	19.74
2-Person Car Pools	35	32.71	36	21.56
3-Person Car Pools	37	34.58	53	31.74
	107	100.00%	167	100.00%

4) "What Route Did You Normally Use Prior To The Banfield HOV Lanes?"

Most carpool drivers and passengers previously used the Banfield Freeway. Approximately 30 percent of both carpool drivers and passengers indicated that they used the Banfield arterial streets prior to the opening of the HOV lanes.

5) "How Did You First Hear About The Banfield HOV Lanes?"

Newspaper articles and advertising, and information signs along the Banfield were identified most often as the publicity medium which first informed people of the Banfield HOV lanes. Very few people heard about the project from their employer (TABLE —).

TABLE 12 PUBLICITY MEDIUM

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Newspapers	51	29.31	77	30.43
Radio	21	12.01	33	13.04
Television	31	17.82	54	21.34
Employer	3	1.72	5	1.98
Brochures	11	6.32	15	5.94
Billboards	9	5.17	12	4.74
Signs on Banfield	41	23.56	50	19.76
Other	7	4.03	7	2.77
	174	100.00%	253	100.00%

6) "What Incentive Contributed To The Formation Of Your Carpool?"

Cost savings was the most mentioned incentive. Convenience was mentioned as a strong second to cost savings by the carpool passengers. Employer incentives and environmental concerns were mentioned the least (TABLE).

TABLE 13 CARPOOL INCENTIVES

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Cost Savings	50	33.11	77	33.84
Time Savings	35	23.18	38	17.19
Convenience	31	20.53	73	33.03
Employer Incentives	5	3.31	8	3.62
Environmental Concerns	12	7.95	16	7.24
Other	4	2.13	9	4.07
	137		221	

7) "Which Increased Activity Do You Think Would Do The Most To Improve Air Quality?"

Traffic flow improvements and carpools were the most often named activities (TABLE 14

TABLE 14 IMPROVING AIR QUALITY

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Mass Transit	24	18.75	57	28.93
Carpooling	34	26.56	54	27.41
Vehicle Emission Inspections	15	11.72	20	10.15
Traffic Flow Improvements	40	31.25	52	26.40
Other Factors	15	11.72	14	7.11
	128		197	

8) "Can You Recommend Any Improvements To, Or Do You Have Any Comments Concerning The HOV Lanes?"

There were 210 responses to the question. Most carpool users of the HOV lane commented that the HOV lanes should be opened to 2-person carpools. They criticized the design of the HOV lanes in regard to the difficulties of getting into and out of the preferential lanes. They also commented about the short length of the eastbound HOV lane and the amount of illegal vehicles using the lanes. See Table __ on Page 24 for a summary of the comments made on the returned survey forms.

4.3.2.2 Non-HOV Lane User Responses

Figure 22 represents the survey form distributed to non-users of the HOV lanes. The response to these questions will follow the same order as on the survey form.

1) "Where Were You Coming From?"

The responses from non-HOV lane users (Figure __, Table __) indicates that 36 percent began their trip west of 122nd Avenue in zones 5 and 6, 34 percent originated between 122nd and 202nd Avenues in zones 11 and 12, and 17 percent originated between 202nd and 282nd Avenues in zones 13 and 14. The area east of 282nd Avenue on Highways 26 and I-80N generated 11 percent of the origins.

2) "Where Were You Going?"

52 percent were destined for the Central Business District and 20 percent were bound for the Lloyd Center vicinity in zone 1.

FIGURE 2. CARPOOL SURVEY FORM - NON-HOV LANE USERS

We are surveying the people who used the Banfield Freeway during the A.M. the first week in November. You can help us in our evaluation of the experimental High-Occupancy Vehicle (H.O.V.) Lane project by answering the following questions.

OREGON DEPARTMENT OF TRANSPORTATION

☐☐☐☐☐☐☐☐☐ (1–9)

1. WHERE WERE YOU COMING FROM?

_____ Number _____ Street _____ City ☐☐☐ (11–13)

2. WHERE WERE YOU GOING TO?

_____ Number _____ Street _____ City ☐☐☐ (15–17)

3. ARE YOU AWARE OF CARPOOL MATCHING SERVICE? Yes ☐ (19) No ☐ (20)

4. ARE YOU AWARE OF BANFIELD FLYER EXPRESS BUSES? Yes ☐ (22) No ☐ (23)
(These trips take only 25 minutes from Multnomah Kennel Club and only 20 minutes from Mall 205 to downtown.)

5. DO YOU DESIRE INFORMATION ABOUT THE FOLLOWING?

Carpool Matching Service ☐ (25) Bus Service ☐ (26)

6. WHAT DO YOU THINK IS THE MAJOR REASON MORE PEOPLE DON'T CARPOOL?

No Personal Privacy ☐ (28) Inconvenient ☐ (29) Need Car for Work ☐ (30)

Unreliable ☐ (31) Other Factor ☐ (32) _____

7. WHAT DO YOU THINK IS THE MAJOR REASON MORE PEOPLE DON'T RIDE THE BUS?

No Personal Privacy ☐ (34) Too Infrequent ☐ (35) Need Car for Work ☐ (36)

Park and Ride Locations Inconvenient ☐ (37) Route Inconvenient ☐ (38)

Too Slow ☐ (39) Other Factor ☐ (40) _____

8. WHICH INCREASED ACTIVITY DO YOU THINK WOULD DO THE MOST TO IMPROVE AIR QUALITY?

Mass Transit ☐ (42) Carpooling ☐ (43) Vehicle Emission Inspection ☐ (44)

Traffic Flow Improvements ☐ (45) Other Factor ☐ (46) _____

9. CAN YOU RECOMMEND ANY IMPROVEMENTS TO, OR DO YOU HAVE ANY COMMENTS CONCERNING THE H.O.V. LANES?

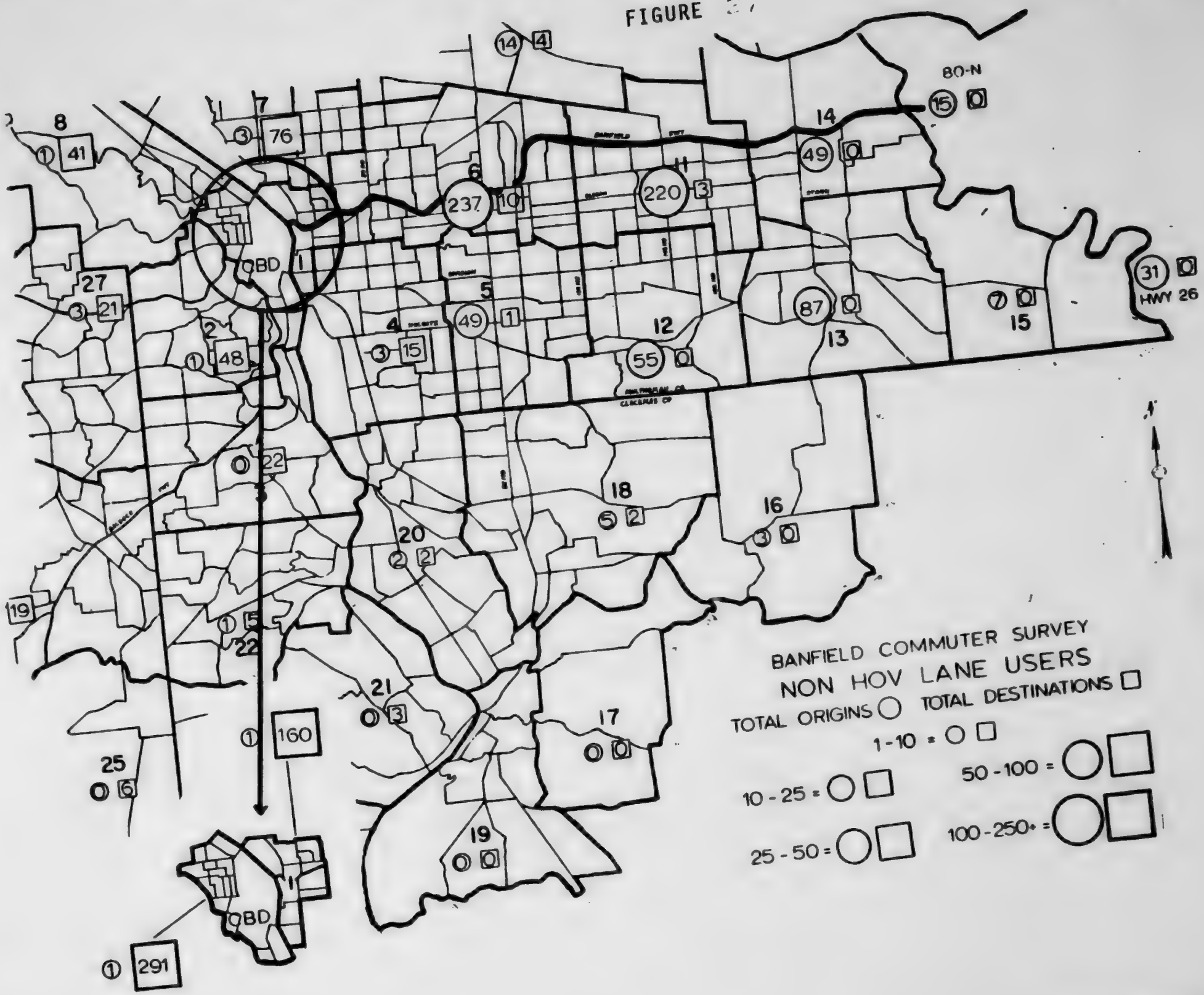
_____

_____

_____ (48)

NO POSTAGE NEEDED

FIGURE 27



BANFIELD COMMUTER SURVEY
NON HOV LANE USERS
TOTAL ORIGINS ○ TOTAL DESTINATIONS □

1-10 = ○ □

10-25 = ○ □

25-50 = ○ □

50-100 = ○ □

100-250+ = ○ □

TABLE 15 ORIGINS AND DESTINATIONS - NON-USERS OF HOV LANE

Area No.	Number Origins	Number Destinations	Percent Origins	Percent Destinations
CBD	1	291	0.12	36.98
1	1	160	0.12	20.33
2	1	48	0.12	6.10
3	0	22	0.00	2.80
4	3	15	0.37	1.91
5	49	1	6.12	0.13
6	237	10	29.59	1.27
7	3	76	0.37	9.66
8	1	41	0.12	5.21
11	220	3	27.47	0.38
12	55	0	6.87	0.00
13	87	0	10.86	0.00
14	49	0	6.12	0.00
15	7	0	0.87	0.00
16	3	0	0.37	0.00
17	0	0	0.00	0.00
18	5	2	0.62	0.25
19	0	0	0.00	0.00
20	2	2	0.25	0.25
21	0	3	0.00	0.38
22	1	5	0.12	0.64
25	0	6	0.00	0.76
26	0	19	0.00	2.41
27	3	21	0.37	2.67
HWY 26	31	0	3.87	0.00
I-5	1	7	0.12	0.89
I-80N	15	0	1.87	0.00
Misc	25	56	3.23	7.00

3-5) "Are You Aware Of Carpool Matching Servic? Are You Aware Of The Banfield Flyer Express Buses? Do You Desire Information About Carpool Matching Service And/ Or Bus Service?"

Over 50 percent of the non-HOV lane users were aware of the Tri-Met carpool matching service and the Banfield Flyer buses.[1] About 8 percent desired additional information about these services.

6) "What Do You Think Is The Major Reason More People Do Not Carpool?"

Inconvenience was named most often as the major reason people did not carpool. "Need car for work" was named as the next most often reason (TABLE –).

1. FOOTNOTE - EXPLAIN CARPOOL MATCHING SERVICE

TABLE 16 REASONS FOR NOT CARPOOLING

	Number of Responses	Percent
No Personal Privacy	106	8.45
Inconvient	547	43.62
Need Car for Work	277	22.09
Unreliable	169	13.48
Other	155	12.36
	1,254	

7) "What Do You Think Is The Major Reason More People Do Not Ride The Bus?"

Route inconvenience was identified most often as the major reason people do not ride the bus. Need the car for work and the bus is too slow were second (TABLE 17).

TABLE 17 REASONS FOR NOT RIDING THE BUS

	Number of Responses	Percent
No Personal Privacy	91	6.78
Too Infrequent	145	10.80
Need Car for Work	238	17.73
Too Slow	225	16.77
Route Inconvenient	361	26.90
Park & Ride Locations Inconvenient	105	7.82
Other	177	13.48
	1,342	

8) "Which Increased Activity Do You Think Would Do The Most To Improve Air Quality?"

Traffic flow improvements and mass transit were indicated as the major activity needed to improve air quality (TABLE 18).

TABLE 18 IMPROVING AIR QUALITY

	Number of Responses	Percent
Mass Transit	252	26.11
Carpooling	79	10.80
Vehicle Emission Inspection	118	12.23
Traffic Flow Improvements	405	41.97
Other Factors	111	11.50

(9) "Can you recommend any improvements to, or do you have any comments concerning the HOV Lanes?"

The comments written on the survey forms ranged over a broad area of concerns and suggestions. Some of them are grouped into broad categories which are tabulated in Table 19. Most non-HOV Lane users commented that the HOV Lanes should be opened to all vehicles at all times or to at least two-person carpools. They felt that the lanes were not being utilized enough during the peak rush hours to warrant the preferential lanes. The non-HOV Lane users made 659 written comments on their survey forms.

TABLE 19 SUMMARY OF CARPOOL SURVEY COMMENTS

	Carpool Drivers & Passengers	Non-HOV Lane Users	Total Both Groups
Total Number of Survey Forms Mailed out on November 16, 1976	250	2,066	2,266
Percent Returned by January 13, 1977 Cut-off Date	37.68%	40.51%	39.78%
Comments			
Open HOV Lanes to all vehicles.	14.5%	41.7%	35.0%
Favor 2-person car pools.	25.0%	12.3%	15.4%
Freeway more dangerous with HOV Lanes.	8.3%	8.8%	8.7%
HOV Lane works good.	11.0%	7.2%	8.1%
Favor earlier start of HOV Lanes Eastbound.	13.2%	2.3%	5.0%
Reduce the hours of HOV Lane operation.	2.6%	2.5%	2.5%
Lanes too narrow.	7.5%	8.7%	8.4%
More police enforcement.	8.8%	4.2%	5.3%
Control traffic on freeway ramps.	4.4%	3.0%	3.4%
Better Tri-Met service.	4.0%	5.3%	5.0%
HOV Lane creates more pollution.	1.8%	6.2%	5.1%
Other comments	22.8%	34.2%	31.4%

4.4 Marketing Transit And Carpool Use

The Banfield HOV lanes represented an unprecedented innovation in the Portland area. In view of this fact, it was recognized that an extensive marketing effort would be required to gain the cooperation of the public. The task was assigned to the Tri-County Metropolitan Transit District (Tri-Met) under the aegis of the federally funded CARPOOL project, a carpool promotion program for the three county district. The purpose of the Banfield marketing program was to implement a strategy to improve ridership on the Banfield Flyers and to encourage increased carpooling for commuters using the corridor.

The marketing program consisted of a variety of elements; perhaps the most effective of which was the placement of informational signs along the Banfield where they were seen by approximately 55,000 users daily.

The first mass distribution of HOV lane information was the handing out of 15,000 flyers by Highway Division personnel stationed at exit ramps during the PM peak period (Figure). This distribution was accomplished shortly before the HOV lanes were opened and in concert with a public media campaign.

An accelerated effort was made during the summer and fall months of 1975 to present a slide show about the Banfield service to as many downtown business employers as possible. The effort was an ongoing one and continued after the HOV lanes were opened.

To assist the public in learning how to use the HOV lane, as well as promoting its advantages, approximately 75,000 operational brochures were produced and distributed. 55,000 were handed out to employees in the downtown area through various methods including placement of brochures on the desks of office workers one evening after office cleaning, inserting a brochure in the paycheck envelopes of all city employees, and general hand distribution. In addition, Highway Division personnel again stopped motorists at freeway egress points and handed out brochures.

One week after the "Banfield Flyer" service began, special bus cards were placed behind the driver's seat on each Tri-Met bus. These cards advertised the new service and, since no commercial advertising is allowed on Tri-Met buses, these cards were the only message visible inside the bus.

The cards were supplemented with a special edition of Tri-Met's Riders Digest which is a monthly informational publication to inform patrons of new changes and programs. THIS EDITION FEATURED THE "BANFIELD FLYER" SERVICE.

The donation of 22 billboards for carpool and HOV lane advertisements was solicited by CARPOOL in 1975. These signs were located throughout the region along major arterials and on the interstate system. In 1976, an additional 15 billboards were posted on Banfield feeder streets. Since the billboards were donated, the messages could only be posted in the interims between paid-for-space.

Two new ways to express yourself on the Banfield beginning December 1.

Tri-Met's "Banfield Flyers"

Non-stop commuter express service. Buses will pick up passengers at three east side Park & Ride Stations—Mall 205, Silver Skate Ice Rink, and Multnomah Kennel Club—and travel non-stop on restricted Eastbound Freeway lanes to downtown Portland. Park free all day, and express yourself with Tri-Met.

Form your own Carpool

Carpools with three or more people will be able to use the restricted lanes 24 hours a day, seven days a week. Call CARPOOL today. Free matching service for you and your neighbors who work in the same area.

TRI-MET 233-3511

CARPOOL 227-7665

A project of the Oregon State Highway Division · 238-8226

The Highway Division AND CARPOOL shared equally IN the cost of radio spots promoting the HOV lanes. These spots were run one week before and two weeks after the lanes were openedy in prime time "drive time".

A marketing emphasis was placed on the Gresham area where a majority of the potential Banfield Flyer ridership would originate. A direct mail piece was prepared and sent to every household in the area. At the same time, Banfield Flyer advertisements were carried in the Gresham newspaper.

Public service time on TV and radio was obtained and a professional advertising agency was contracted to produce several 30-second promotional spots. One of the spots was based on a "Band Together" slogan, and consisted of several commuters getting together for a musical "jam session" in a Volkswagon convertible. Some very catchy jazz music, complete with banjo and bass fiddle, combined with the humorous film footage of this unlikely group driving down the HOV lanes made this spot an apparent success. The effectiveness of these spots were enhanced by the good air times, such as during broadcasting of the summer Olympic Games.

It was felt that the marketing program served an integral role in both introducing a very controversial transportation project to the public and eliciting the cooperation of the people in making the HOV lanes work.

5.0 ENFORCEMENT OF HOV LANE USE

In order to achieve the maximum carpool incentive from the HOV lanes, it is necessary to provide a high level of enforcement against the HOV lane violator. The enforcement on the Banfield is made more difficult because the preferential lanes are not physically separated from the normal travel lanes; and, conditions for police patrolling and apprehension are at their worst during the peak flow periods when the HOV limitation is in effect.

5.1 Enabling Legislation

The power to arrest HOV lane violators was given to law enforcement agencies through the passage of Oregon State Law ORS 483.532. The law was amended to read: "(b) Designate lanes to be used exclusively by buses or high-occupancy-use passenger vehicles for the purpose of conserving energy and facilitating public transportation." Subsequent to this amendment, the Oregon Transportation Commission passed a resolution which put the Banfield HOV lanes into effect. According to the resolution:

a. The following portions of the Banfield freeway are designated for exclusive use by buses and high-occupancy-use passenger vehicles:

(1) The eastbound inside (median) lane from milepoint 2.88 to milepoint 4.59.

(2) The westbound inside (median) lane from milepoint 4.69 to milepoint 1.36.

b. For purposes of this rule, "high-occupancy passenger vehicles means a passenger vehicle carrying three or more passengers.

c. Emergency vehicles may use the lanes designated for buses and high-occupancy vehicles when engaged in emergency action.

d. The high-occupancy use lanes shall be designated by signs and pavement markings as defined in the Oregon Manual of Uniform Traffic Control Devices or other approved signs and markings not in conflict with Oregon or Federal Highway Administration regulations.

e. The designation of the high-occupancy lanes shall take place upon completion of the present reconstruction project in the affected areas of the Banfield Freeway.

5.2 Implementing Enforcement

The Oregon State Police are responsible for patrolling the Banfield and enforcing vehicle occupancy in the HOV lanes. Representatives of the State Police were included as members of the Technical Advisory Committee and participated heavily in the operational planning and on-going evaluation of the project. They initially expressed serious reservations about the project due to

hazardous enforcement conditions where an officer would be required to pursue, apprehend, and cite the violator while moving across two lanes of peak period traffic. The problem was further aggravated by the lack of shoulder area in which to pull a violator off.

The police recognized that additional patrols would be required and responded first by adding one unit to the existing two to three car Banfield patrol force. Unacceptable violation rates indicated that the enforcement intensity was still too low, consequently, a "saturation patrol" program was developed and put into operation.

The saturation patrol HOV SECTION OF THE consists of drawing units from other patrol areas and concentrating enforcement on the problem area, which, in this case, is the Banfield Freeway. The patrols are randomly scheduled sometimes occurring on two consecutive days. During a saturation patrol, up to six patrol cars may be involved, and each officer can usually write between five and eight HOV citations during a peak period if the violator rate is high. The police have found no adverse impacts to the other freeway patrol areas from which the the units were taken as a result of the saturation patrol program.

The State Police have experienced several problems in carrying out their enforcement program which appear to be inherently related to the configuration and situation of the Banfield HOV lanes. The officers have indicated some difficulty in spotting violators from a position where they can effectively make the apprehension. Both the roving car and roadside observation methods are being used; however, moving the patrol unit from the detecting point to the HOV lane and then getting the violator back across two regular traffic lanes, is a significant problem in heavy commuter traffic. Once the violator has been ushered to outside lane, the officer is faced with the problem of finding a safe stopping place and, at times, must follow the violator out of the HOV section before pulling over. Emergency bays and off-ramps are frequently used for citing violators.

In the State of Oregon, the witnessing officer must also be the citing officer, which precludes the use of several innovative techniques suggested by the TAC, such as stationing an officer on an overpass to spot a violator then make radio contact with a patrol unit for apprehension, or the use of photographic detection in some manner.

5.3 Citations

The citation for an HOV lane violation is for "disobeying an official traffic sign" and carries a $17.00 bail, plus a $10.00 surcharge in Multnomah County. The actual fine may be more, less, or nothing compared to the bail set.

The most frequently heard excuse, ~~given~~ ACCORDING to the ~~police~~ CITING officers, is that the violator was forced out into the HOV lane while trying to

avoid an accident. The next most frequently used excuse is that the motorist was stranded out in the HOV lane and could not get back into the regular lanes of traffic. Inadequate signing and "did not know what the signs meant" are both infrequently heard excuses.

At the time of the citation the state police inform the violator of the reasons for the HOV lanes and why the motorist received the citation. The citing officer uses a uniformly worded statement to indicate the violation was an illegal use of the HOV lane. The wording prevents any misunderstanding should the citation go to court.

Table 20 shows the number of citations issued during the study period.

TABLE 20 HOV LANE CITATIONS AND WARNINGS ISSUED

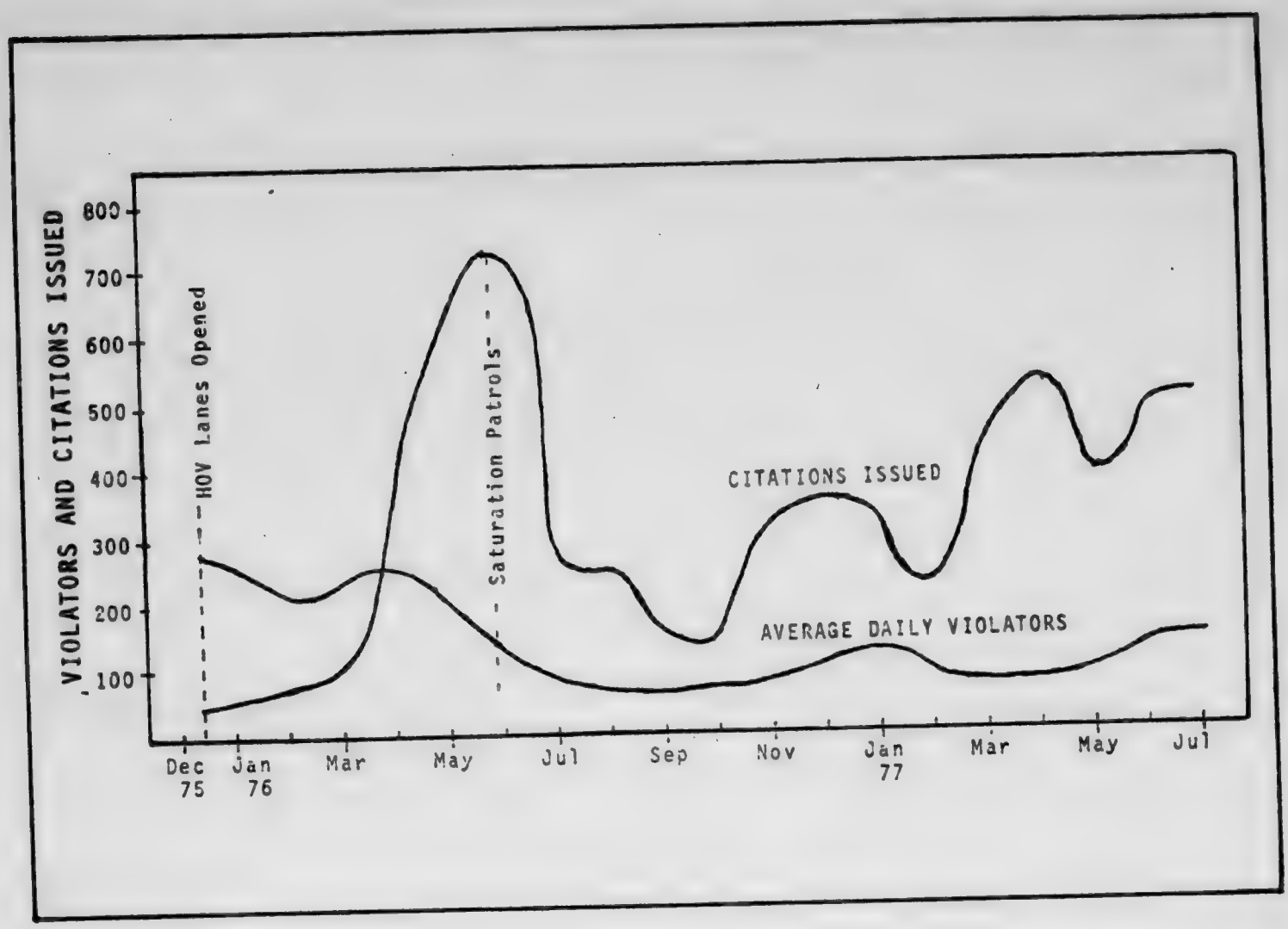
Month	Citations	Warnings
December 1975	75	NA
January 1976	78	NA
February	88	NA
March	96	NA
April	357	40
May	593	19
June	735	89
July	257	37
August	252	51
September	156	55
October	138	35
November	333	59
December	346	34
January 1977	312	47
February	205	27
March	436	39
April	524	35
May	395	35
June	482	37

5.4 Violation Rates

The violation rate is obtained by determining what percentage of the total number of vehicles that use the HOV lanes do not have the required number of occupants. The violation rate for the Banfield Freeway is shown in Figure 27. The daily number of peak hour HOV lane violators per month have been reduced from an average of 250 violators per day during January through April 1976 to 70 violators per day during March of 1977. The daily number of violators increased to over 110 in January 1977 due to a week of

severe winter weather which curtailed enforcement by the State Police.

FIGURE 24 HOV LANES VIOLATIONS AND CITATIONS ISSUED



During the last three months of this study, April through June 1977, HOV lane violation rates averaged 12.0 percent of the number of vehicles using the HOV lanes and less than 1.0 percent of the number of vehicles using all the Banfield lanes. The Oregon State Police feel that anything below 20 percent is an acceptable rate before they have to increase patrol efforts.

5.5 Evaluation Of Court Cases

Soon after the opening of the HOV lanes, it was discovered that many of those receiving citations and electing to go to court in lieu of paying the bail, were found not guilty by the Circuit Court. A critical factor in the success of the HOV lanes was enforcement. If it became known that

the Courts were not imposing penalties for violators then the violation rate would probably increase negating the effectiveness of the HOV lanes. A meeting was arranged between representatives of the Department of Transportation and the Multnomah County Circuit Court.

From the meeting, it was apparent that the judges had not been adequately informed of the HOV lane purpose and its operational characteristics. To correct this problem, a briefing session was held for the circuit court judges. placed on the mailing list for Banfield information and a representative from the court be placed on the TAC.

ODOT representatives and the judges agreed that a citation for illegal use of the HOV lanes should not be a moving violation but a non-moving violation which kept the case from going on a driver's permanent driving record.

THE JUDGES REQUESTED THAT THEY BE

6.0 PROJECT SAFETY

A principal concern in the planning and monitoring of the HOV lane project was safety. The main elements of this concern were:

a. What effect would the lack of roadway shoulders have, and would the vehicle turnout bays effectively mitigate this impact?

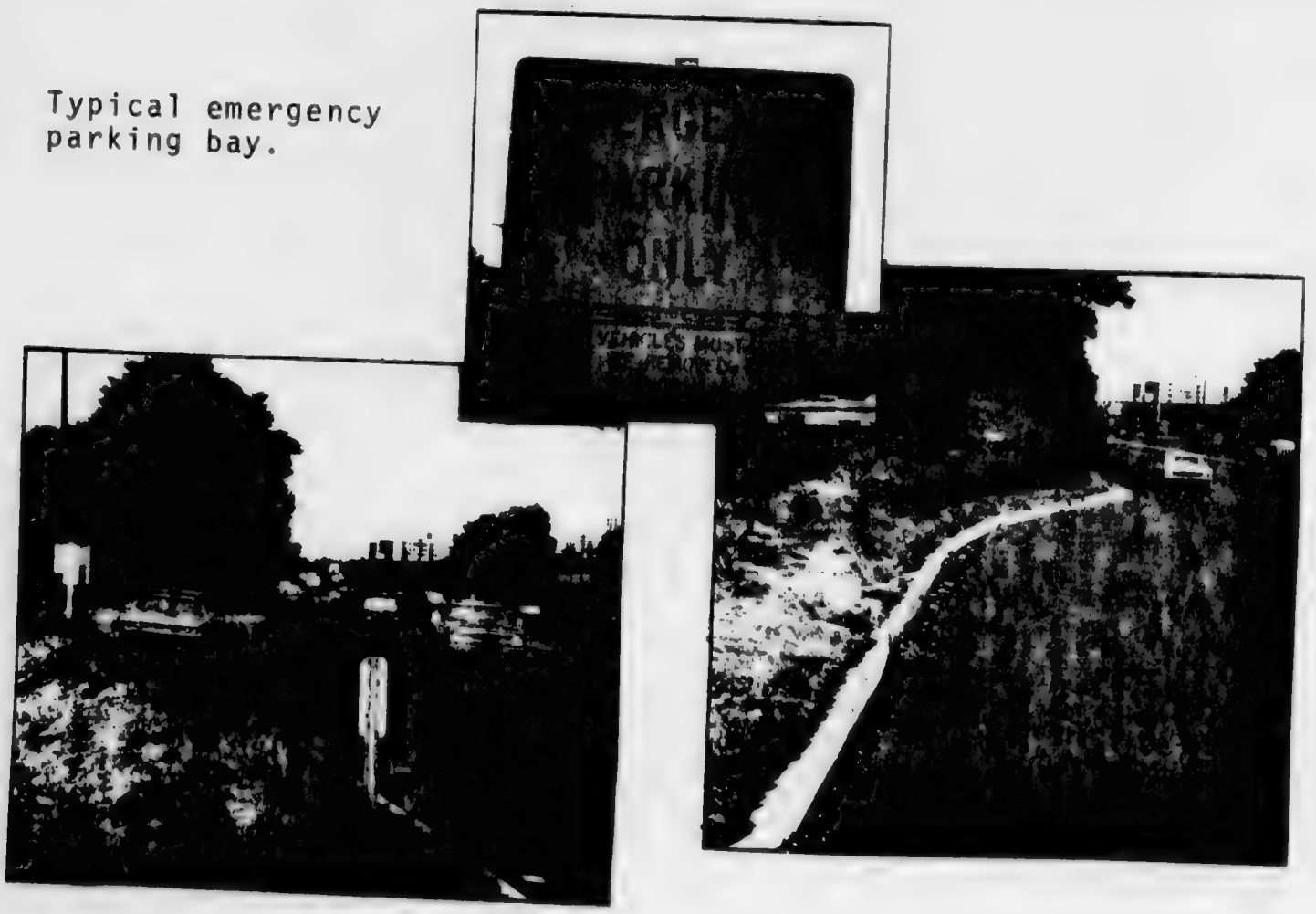
b. How would the narrower travel lanes affect safe user operation?

c. Would the speed differential between the HOV lane and the normal lanes create a hazard?

d. Would the HOV lane cause hazardous weaving problems?

It was anticipated that the lack of shoulders on the Banfield would cause a serious congestion and accident potential as a result of stalled vehicles. In an effort to mitigate this problem, seven emergency bays were located within the limits of the HOV lane area at approximately 2,000 foot intervals. Each bay is able to accomodate six passenger vehicles. Off ramp areas also provide pull-off space.

Typical emergency parking bay.



Once in the bay, the motorist is able to call for assistance by using the emergency telephone located adjacent to each of the seven pull-outs. The telephones are connected directly to the State Police dispatcher and are simple to use, with instructions printed clearly on the front of the phone box. If a motorist is out of gas, a State Police car is sent to the bay where one gallon of gas is dispensed to the vehicle. For other types of emergencies, the dispatcher takes the appropriate action necessary to assist the motorist.

There are no signs on the freeway to indicate that the emergency bays contain telephones. It was felt that the signs would tempt motorists to pull into the bays to make a regular telephone call.

Although the State Police had initial reservations about the lack of shoulders to accommodate vehicle breakdowns, they have since reported that there does not seem to be a problem. Most vehicles have been able to make it to the emergency bays. If not, the police cars are equipped with push bumpers to push the stalled vehicle into the next bay or exit ramp. Accidents, however, continue to be a problem since damaged vehicles cannot be moved to the side of the road.

The accident history has indicated that the less-than-standard lane widths in the HOV lane section do not seem to be a problem. No appreciable increase in side-swipe accidents occurred during the monitoring period. This lack of increase may partially be attributed to the "Narrow Lanes" signing, and to the effect that the sensation of narrow lanes may have on increasing driver caution.

The difference in peak period travel speed between the faster moving HOV traffic and the congested normal traffic has also proven not to be a problem. Tri-Met drivers and carpool motorists hesitate to drive the posted speed limit when traffic is moving considerably slower in the normal lanes, because of the concern that a non-carpooler may suddenly pull into the HOV lane. The HOV operators tend to adjust their speed to the adjacent traffic flow so as to allow sufficient stopping time in emergency situations.

When the HOV lanes were first opened, a considerable amount of potentially hazardous weaving took place; however, the majority of peak period motorists on the Banfield are daily commuters and they quickly learned how the Banfield operates, establishing safe travel patterns. As a result of the commuter's daily familiarity, hazardous weaving movements diminished very rapidly to the point that they do not presently seem to be a significant problem.

6.1 Other Identified Safety Problems

Because of the narrow median width at the center of the freeway, the problem of headlight glare for vehicles traveling in the opposite direction became evident soon after the HOV lanes were opened. This problem was solved by installing glare shield paddles on the top of the center median during the summer of 1976.

Another safety problem developed shortly after the HOV lanes were opened. Due to the deletion of the shoulders, the on-ramp acceleration lanes were too short to allow adequate acceleration DISTANCE for merging vehicles. As a result, many side swipe and rear end accidents occurred at the westbound 82nd/Halsey Street, 58th Avenue, 33rd Avenue, and eastbound 39th Avenue on-ramps. Extra work was added to the construction contract to extend these ramps. Since the work was completed in April of 1976, the number of accidents at these entrance ramps has been reduced to pre-HOV lane accident levels.

During the summer of 1976 a rash of truck accidents occurred on Portland area freeways. A few of these accidents happened on the Banfield, creating traffic delays.

The Oregon State Police undertook a study of truck traffic on the Portland freeways. Their report indicated that the truck accidents were occurring at the same frequency on all freeways and excessive speed was the probable reason. There was no indication that the HOV lanes were a contributing factor in the Banfield accidents.

It was brought to the TAC's attention that oversize vehicles were using the Banfield during peak periods and interfering with the operations of the HOV lane. Some of these vehicles were up to 14 feet wide and usually required two lanes when moving around curves. When the center lane was used, the trailer would project into the HOV lane forcing HOV traffic to follow them at a slow

speed. When the outside lane was used, the wide vehicles would force traffic to pass them by using the HOV lanes, creating a dangerous weaving situation. A number of the vehicles forced into the HOV lanes had trouble getting back into the normal lanes and were being stopped by the State Police as HOV lane violators.

The TAC recommended that oversize vehicles be banned from the Banfield during peak rush hour periods. This recommendation is in the process of being considered by the Oregon Department of Transportation.

6.2 Accident Rates, Types, and Severity

The accident experience on the Banfield was monitored through analysis of accident reports received by the Oregon State Division of Motor Vehicles (DMV). All accidents which occur in Oregon must be reported to the Division if any injuries are involved or if over $200.00 worth of damage is received by one of the vehicles; hence, low damage "fender-bender" type accidents are not included in this study. Occasional opportunities to make on-the-scene observations at accident sites were used to test the validity of conclusions being drawn from DMV records.

A tabulation of all reported accidents occurring within the HOV section of the Banfield and their relationship to total vehicle miles traveled are shown in Table 21 and graphed in Figure 30. The graph indicates that the accident rate per million vehicle miles traveled has returned to pre-HOV lane levels.

The approximate accident rate prior to opening the HOV lanes was between 0.7 and 1.0 (Table 21). During construction, the accident rate increased to a high of 4.0, apparently due to a considerable amount of construction activity in the roadway. The additional construction activity in April 1976 at 33rd and 82nd/Halsey eastbound on-ramps again resulted in an elevation of the accident rate to over 2.5. The rate remained between 1.3 and 1.8 during the latter half of 1976 and dropped to below 1.0 during the first half of 1977 where it has continued to decline slightly (Figure 30).

Figure 30 also shows a comparison of the Banfield accident rates to those of two other major freeways serving the Portland CBD, the Minnesota (I-5) Freeway and the Sunset Freeway. The Minnesota is a main north-south route into the CBD while the sunset is an east-west route coming from the west. Sections which were considered comparable to the Banfield were taken from both freeways and analyzed for accidents (Figure 30). Figure 30 shows very little difference between the three freeways after construction on the Banfield was complete. This lack of difference may indicate that the HOV lanes are not a significant causative factor in Banfield accidents. Both the Banfield and the Minnesota have similar AWDs, and the Sunset AWD is 20 percent less than the other two freeways.

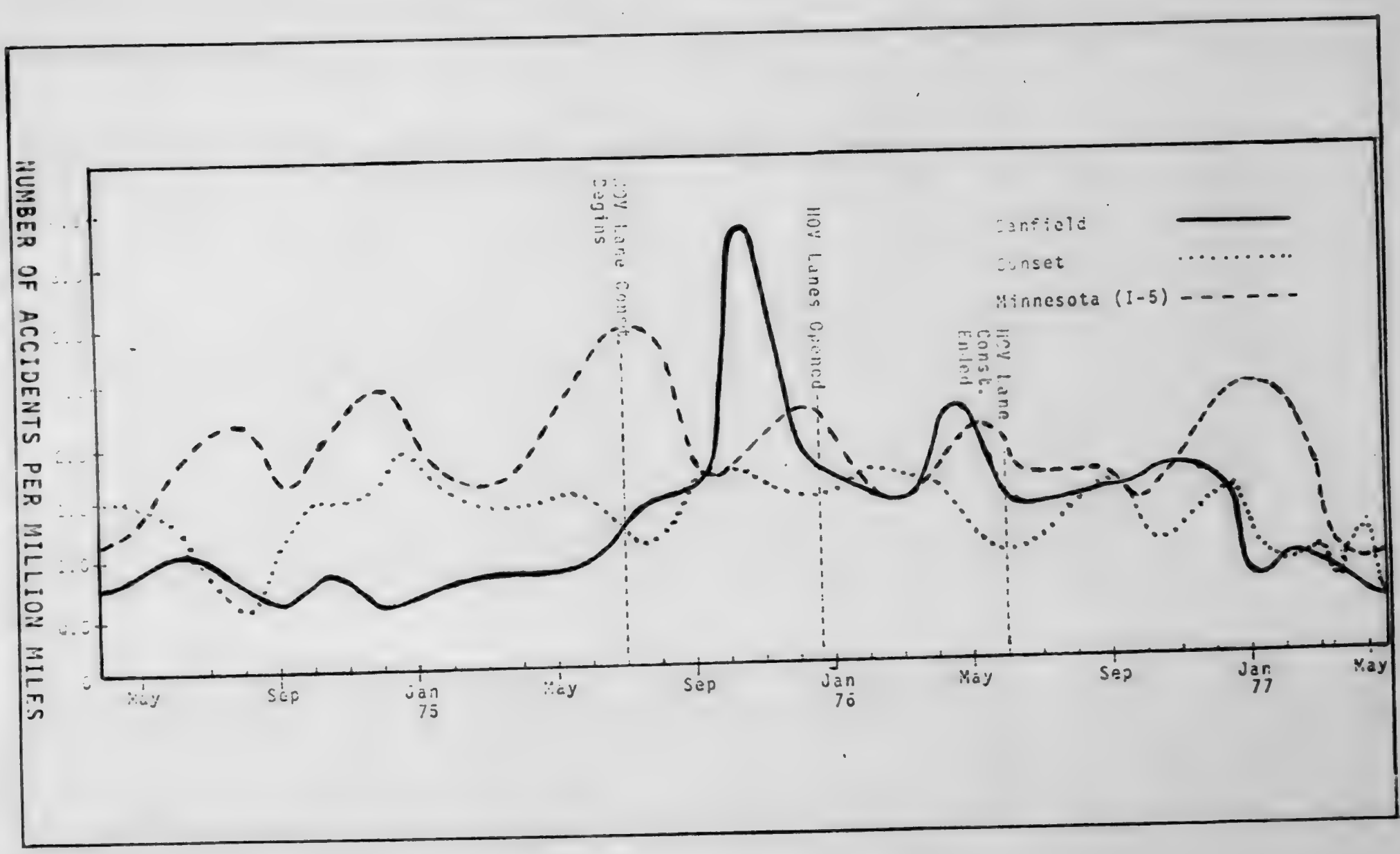
The number of vehicles involved in each accident was also noted in analyzing the accident reports. It was felt that the higher speeds in the HOV lanes may result in more vehicles being involved

TABLE 2
TABULATION OF ACCIDENTS
I-80N BANFIELD FREEWAY
JUNE 1974 to JUNE 1976

SOURCE - ODOT Motor Vehicle Division records for Reported Accidents

Mth/Yr	Million Miles Traveled	Number of Accidents	Ave No. of Veh/Accident	Accidents per Million Miles
6/74	N/A	11	2.91	N/A
7/74	N/A	16	2.00	N/A
8/74	11.25	5	2.60	0.44
9/74	10.33	11	2.64	1.06
10/74	10.70	8	2.50	0.75
11/74	10.16	13	1.93	0.78
12/74	10.51	N/A	N/A	N/A
1/75	10.06	6	1.83	0.60
2/75	9.02	7	2.00	0.78
3/75	10.78	10	2.00	0.93
4/75	10.49	9	1.89	0.86
5/75	10.95	13	2.00	1.19
6/75	11.16	8	2.00	0.72
7/75	11.10	19	2.11	1.71
8/75	11.20	20	2.35	1.79
9/75	10.32	14	2.57	1.36
10/75	10.69	30	2.50	2.81
11/75	10.09	41	2.29	4.06
12/75	10.39	34	2.18	3.27
1/76	10.03	14	2.29	1.40
2/76	9.47	15	2.53	1.58
3/76	10.11	11	2.18	1.09
4/76	11.36	29	2.16	2.55
5/76	11.03	20	2.08	1.81
6/76	11.62	17	2.27	1.46
7/76	11.48	15	2.27	1.31
8/76	11.57	16	2.38	1.38
9/76	11.73	17	2.41	1.45
10/76	11.73	18	2.22	1.53
11/76	12.64	20	2.40	1.58
12/76	11.72	12	2.25	1.02
1/77	10.37	7	1.86	0.68
2/77	10.47	11	2.45	1.05
3/77	12.09	13	2.00	1.08
4/77	11.79	2	2.00	0.17
5/77	11.85	12	1.92	1.01
6/77	12.29	7	2.00	0.57

FIGURE [illegible] PORTLAND AREA FREEWAY ACCIDENT RATES



in each accident. The study indicated that this was not the case as the numbers remained approximately the same as before the HOV lanes were implemented.

To analyze the effects of the HOV lanes on the spatial distribution and nature of Banfield accidents, the accidents occurring in the period from July 1974 to June 1975 (pre-HOV) were compared to accidents occurring between July 1976 and June 1977 (HOV lanes in operation). Tables 39 and 40, and Figures 26 and 27 compares these two periods. It should be noted that the tabular data covers 24 hour days, whereas the Figures 26 and 27 only compare the AM and PM four hour peak periods. The comparison indicates that rear-end accidents have increased (45 to 56 accidents) during the hour of HOV lane operation. The severity of these rear-end accidents as reflected in the number of injuries has also shown an increase (21 to 30). Very little change has occured i- other types of accidents.

The spatial distribution of accidents shown in Figures 26 and 27 is explained as follows:

a. Westbound 6-10 AM (Figure 26)

During the 1974-75 period, most of the accidents occurred in the inside lane east of the 58th Avenue on-ramp. They were generally rear-end type accidents with half of them involving injuries. These accidents were probably caused by the congestion at the 58th Avenue on-ramp. The cluster of accidents in the center lane near 33rd Avenue can probably be attributed to the poor sight distance around the horizontal curve under the 33rd Avenue structure.

During the 1976-77 period a large portion of the accidents recorded occurred in the center lane just east of the Holladay off-ramp. They were generally rear-end type accidents with three quarters of them involving injuries. These accidents were probably caused by vehicles leaving the HOV Lane to exit at the Holladay ramp.

b. Eastbound 3-7 PM (Figure 27)

During the 1974-75 period, most of the accidents occurred west of the 39th Avenue lane drop. A great deal of traffic congestion extended back to 16th Avenue from the 39th Avenue lane drop, causing numerous rear-end type accidents. About 60 percent of these accidents involved injuries.

During the 1976-77 period, the number of accidents west of 39th Avenue were substantially reduced. However, an increase in the number of accidents occurred between the 60th Avenue on-ramp and the 68th Avenue off-ramp, in the center and outside lanes. They were generally rear-end types and approximately three quarters of them involved injuries. The cause was attributed to poor sight distance around a sharp horizontal curve at 68th Avenue, and congestion from 82nd Avenue.

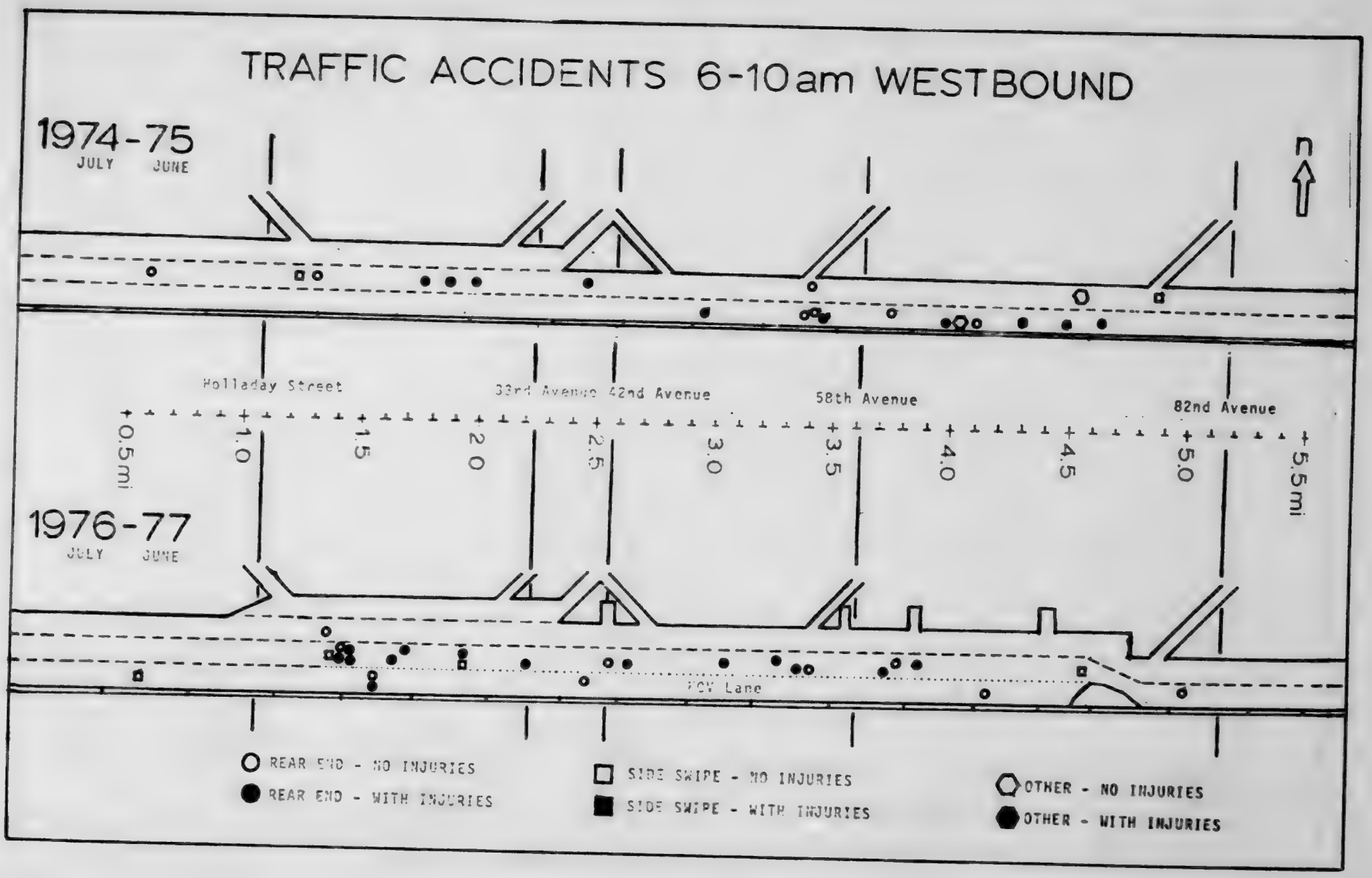
TABLE 22 BANFIELD ACCIDENTS - WESTBOUND

TIME	YEAR	REAREND		FIXED OBJECT		SIDESWIPE		OTHER	
		INJURY	NON-INJURY	INJURY	NON-INJURY	INJURY	NON-INJURY	INJURY	NON-INJURY
7:00PM to 6:00AM	July 1974 to June 1975	0	2	1	4	1	1	0	2
	July 1976 to June 1977	2	2	3	6	1	2	0	1
6:00AM to 10:00AM	July 1974 to June 1975	9	8	0	1	0	2	0	1
	July 1976 to June 1975	14	10	0	0	0	4	0	0
10:00AM to 3:00PM	July 1974 to June 1975	0	1	2	0	1	1	0	0
	July 1976 to June 1977	7	6	0	2	1	4	0	2
3:00PM to 7:00PM	July 1974 to June 1975	2	5	3	1	0	4	1	0
	July 1976 to June 1977	6	3	2	2	0	3	0	0

TABLE BANFIELD ACCIDENTS - EASTBOUND

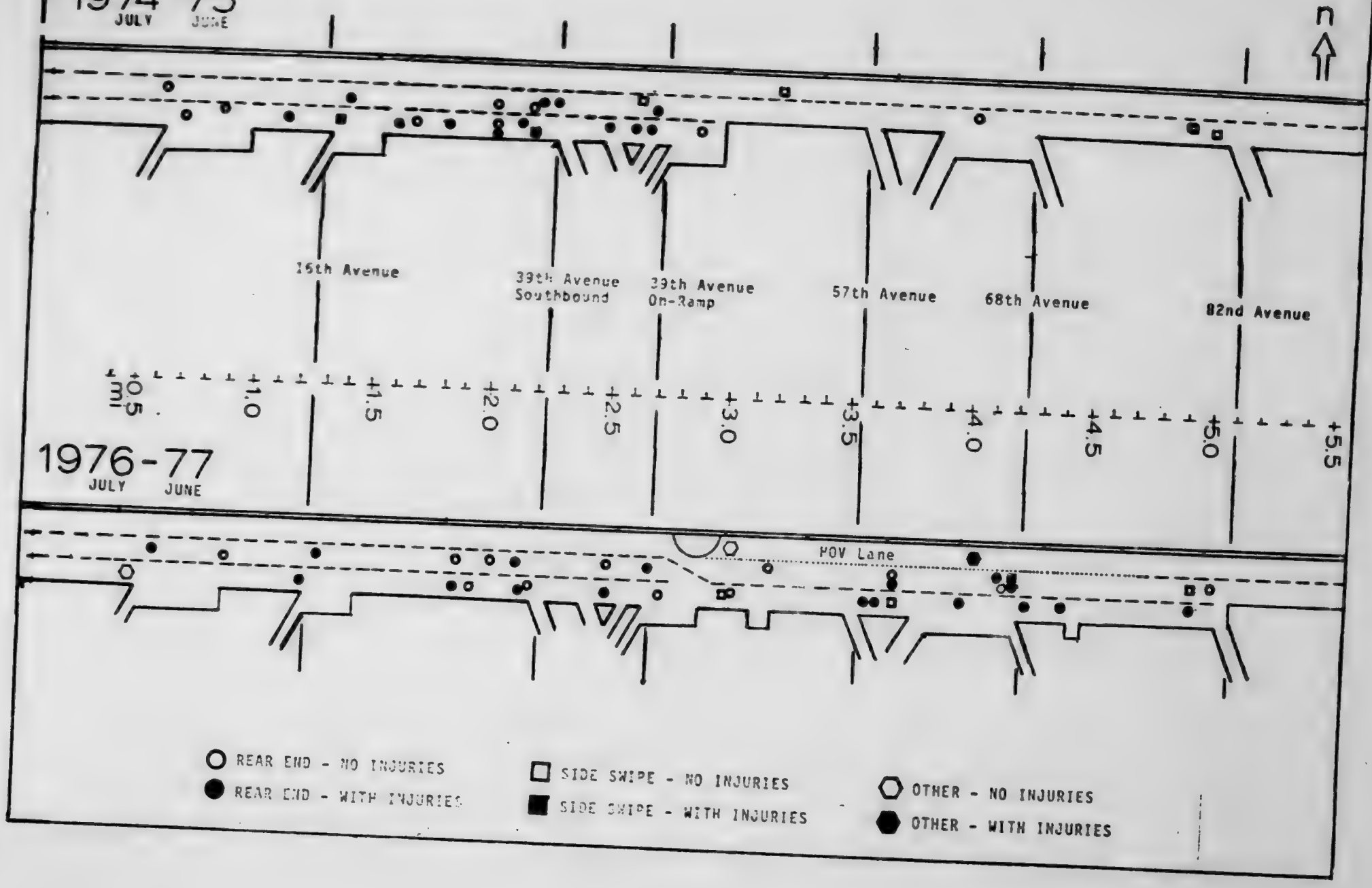
TIME	YEAR	REAREND		FIXED OBJECT		SIDESWIPE		OTHER	
		INJURY	NON-INJURY	INJURY	NON-INJURY	INJURY	NON-INJURY	INJURY	NON-INJURY
7:00PM to 6:00AM	July 1974 to June 1975	6	2	1	1	0	0	0	1
	July 1976 to June 1977	5	1	4	1	1	2	0	1
6:00AM to 10:00AM	July 1974 to June 1975	0	0	2	0	0	0	0	0
	July 1976 to June 1977	1	1	1	0	0	0	0	0
10:00AM to 3:00PM	July 1974 to June 1975	2	0	2	0	0	0	0	0
	July 1976 to June 1977	2	5	1	1	2	5	0	0
3:00PM to 7:00PM	July 1974 to June 1975	14	11	1	2	4	5	1	0
	July 1976 to June 1977	21	14	1	0	1	3	1	0

TRAFFIC ACCIDENTS 6-10am WESTBOUND



TRAFFIC ACCIDENTS 3-7pm EASTBOUND

1974-75
JULY JUNE



In conclusion, there has been a slight increase in accidents in the last two years. This is probably due to an increase in traffic volume. The rate of accidents per million vehicle miles during the first half of 1977 is near the rate of accidents per million vehicle miles during the first half of 1975. The seriousness of the accidents appear to be slightly greater based on more injuries being reported. The HOV lanes do not seem to contribute significantly to the accident potential on the Banfield.

7.0 AIR QUALITY

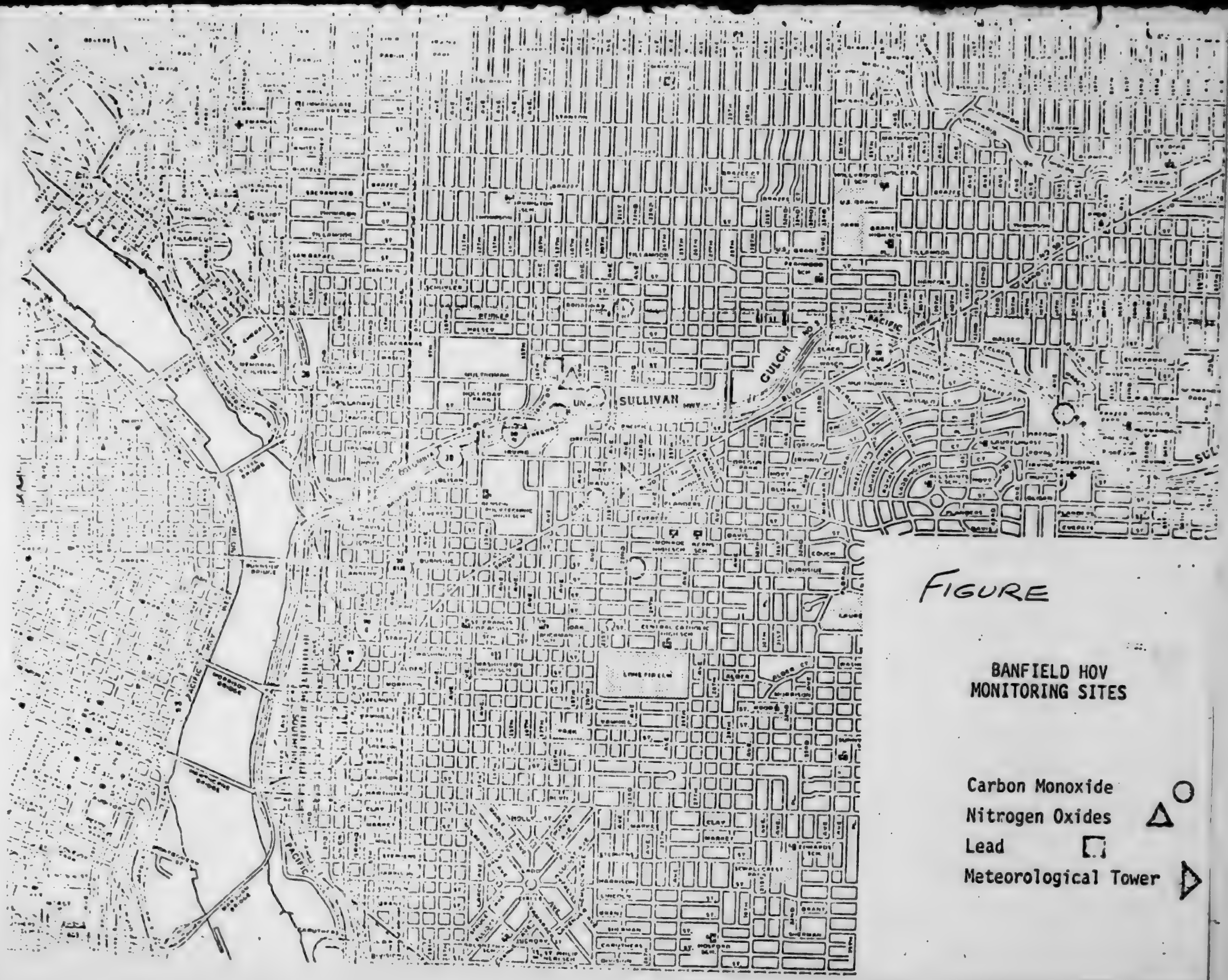
The purpose of this section is to assess the short-term air quality impacts resulting from the operation of the High Occupancy Vehicle (HOV) lanes in the Banfield Freeway corridor. The study of air quality consisted of two discrete elements: (1) the collection and interpretation of air quality data in the study area, and (2) the application of pollutant emission factors[1] to traffic data collected concurrent with this study. The results of the air quality study are presented as a comparative analysis of two "alternatives". The Build alternative refers to the HOV lanes as operated during the course of this study, while the No-build alternative represents what would have occurred without the HOV lanes. The later condition was based on historical traffic data. The collection of ambient air quality data was initiated shortly after the opening of the HOV lanes. Monitoring sites were selected along the Banfield and major adjacent arterials and thus reflect the source dependent contributions of these facilities[2].

Carbon monoxide (CO) was monitored most extensively under this program. Three sampling sites were used to assess the effects of the major arterials (Broadway, Burnside and Sandy) on the Banfield corridor airshed. Two additional sites were selected to monitor the direct effects of the HOV lanes. A sixth CO sampling site was located near Lloyd Center. This site was also used to measure total suspended particulate (TSP), lead (Pb) and nitrogen oxides (NOx). One additional site adjacent to the Banfield Freeway was used to collect supplemental meteorological data. The locations of the collection sites are shown in Figure 5.

The comparative analysis of alternatives was based primarily on the results of a total emissions analysis. Traditionally such an analysis is based on average daily traffic which yields results in tons of pollutants per year (i.e. total annual pollutant emissions). For the purpose of this report, this procedure was modified by using peak hour traffic data, thus resulting in total annual emissions for peak hours only.

[1]U.S. Environmental Protection Agency, AP-42, Supplement No. 5 For Compilation of Air Pollutant Emission Factors; Second Edition; December, 1975.

[2]Such data reflects the absolute pollutant concentration, that is, the sum of both local source emissions and background. Background is defined as the concentration of pollutants at a site which is unaffected by any single local source such as an existing highway, parking lot, or industry.



FIGURE

BANFIELD HOV
MONITORING SITES

Carbon Monoxide ○
Nitrogen Oxides △
Lead □
Meteorological Tower ▷

7.1 Background Climatological Information

The effect which a pollutant source has on nearby receptors is strongly influenced by local meteorological conditions. The thermal structure of the atmosphere (i.e. the relationship between air temperature and height) is one such meteorological parameter affecting pollutant concentrations. Under normal meteorlogical conditions, air temperature decreases with increasing height above the earth's surface at a rate of approximately 5.4°F per 1,000 feet. This condition is known as the normal adiabatic lapse rate and is typified by rising warm air being replaced by cooler air. However, conditions in the Portland area are such that thermal inversions are a common occurrence. A thermal inversion, in which air temperature increases with height, strongly resists vertical motion and tends to suppress turbulence. The thermal inversion is therefore of particular interest in air pollution, since it does not allow pollutants to disperse. Thermal inversions occur in the Portland area as frequently as nine out of ten nights during the late summer, fall, and early winter months for periods of up to 12 hours on each of these days.[1] If inversions exist aloft, they tend to act as a "lid"; that is pollutants generated on the surface will rise until such a "lid" is reached. If inversions develop near the ground, little if any upward dispersion of pollutants will occur.

Another factor that influences pollutant dispersion is wind shear. Wind shear is defined as the variation of horizontal wind speed with height. Close to the ground, the effects of friction retard the wind flow. This reduction of wind speed close to the ground tends to slow the lateral dispersion of pollutants. Thus, wind speed, to some extent, will determine the concentration of pollutants in a given volume of air. In general, higher wind speeds create more favorable conditions for dispersion of pollutants.

Vertical temperature structures and wind shear are related to atmospheric stability. A stable atmosphere tends to increase pollutant concentrations while an unstable atmosphere tends to minimize the concentrations by providing greater dillution.

Another climatological function influencing levels of air pollution is the abundant sunlight in Portland associated with long summer days. The high daily influx of solar radiation is a necessary ingredient of photochemical oxidants (smog). Solar radiation plays an important part in the formation of secondary pollutants and is also one of the primary factors that affect atmospheric stability near the ground.

Relating stability classifications to wind speeds and estimated net radiation was first accomplished by Pasquill in 1962. Pasquill's stability classification was based on six classes for day and night conditions (Table 24.) These stability categories are designated

[1] Howard, Needles, Tammen, & Bergendoff, I-205 Final Environmental Impact Statement, 1974, P. 3-21.

TABLE . PASQUILL STABILITY CLASSIFICATIONS

A - Extremely unstable conditions
B - Moderately unstable condtions
C - Slightly unstable conditions
D - Neutral conditions (applicable to heavy overcast, day or night)
E - Slightly stable conditions
F - Moderately stable conditions

Surface Wind Speed at 10 meters Meters per second	Daytime Conditions			Nighttime Conditions [a]	
	Incoming Solar Radiation			Thin Overcast or ≥ 4/8 Cloudiness [b]	≤ 3/8 Cloudiness
	Strong	Moderate	Slight		
<2	A	A-B	B	-	-
2-3	A-B	B	C	E	F
3-5	B	B-C	C	D	E
5-6	C	C-D	D	D	D
>6	C	D	D	D	D

a/ Nighttime conditions refers to the period one hour before sunset to one hour after sunrise.

b/ The degree of cloudiness is defined as that fraction of the sky above the local apparent horizon which is covered by cloud.

A through F.[1]

Recent research has shown that stability Class F does not occur near roadways, due to the thermal and mechanical mixing caused by traffic.[2] Worst case stability classes in the Portland area for transportation related computer models are assumed D or E.[3]

Local topography, rivers, and man-made structures alter the normal wind flow patterns and thus affect the dispersion and transportation of pollutants. The area affected is variable and dependent on the size, shape, and texture of the obstructions. Meteorological data should be collected as close as possible to pollutant monitoring sites to accurately record the wind flow patterns.

7.2 Air Quality Standards

Primary pollutants are those chemical components which are emitted directly into the atmosphere by a source. Carbon monoxide (CO), hydrocarbon (HC), sulfer dioxide (SO_2), and Total Suspended Particulate (TSP) are all considered as primary pollutants. Secondary pollutants are those formed in the atmosphere as a result of reactions such as hydrolysis, oxidation, and photochemistry. Nitrogen dioxide (NO_2) and the entire class of photochemical oxidants comprise the largest part of this classification.

Transportation is the predominant source of carbon monoxide and hydrocarbons and accounts for about 50 percent of total pollutant emissions from all sources (Table __).[4]

In an effort to develop air quality criteria to protect against potential adverse effects, the U.S. Clean Air Amendments of 1970 established two levels of air quality standards. These are primary standards which are designed to protect human health and secondary standards which are established to protect human welfare. Table __ presents the National Ambient Air Quality Standards established by the Clean Air Act (as amended-1977). It should be noted here that under provisions of the Clean Air Act, states were also given the option of establishing their own ambient air quality standards provided that such standards are at least as stringent as the Federal standards. Oregon's DEQ has done this and adopted the Federal primary standards as our primary standards, except for TSP and SO_2 where the lower Federal secondary standards were adopted as the state primary standards.

1 Highway Air Quality, Implementation Package No. 76-5, U.S. Department of Transportation.

2 Memorandum, Michael Lash, Director of Environmental Policy; "Project Air Quality Considerations"; U.S. D.O.T.; June 16, 1977.

3 Worst case stability classes are those conditions which would conceivably exist more than once annually and would create a situation condusive to the build-up of pollutants in a given locality.

4 Highway Air Quality, Implementation Package No. 76-5, U.S. Department of Transportation.

TABLE
ESTIMATED ANNUAL EMMISSIONS OF AIR
POLLUTANTS IN THE UNITED STATES - 1974

Source Category	Pollutants (millions of tons) CO	HC	NO_x	Particulates	SO_x	Source Total	Percent
Transportation	73.5	12.8	10.7	1.3	0.8	99.1	50
Fuel Combustion in Stationary Sources	0.9	1.7	11.0	5.9	24.3	43.8	22
Industrial Process Loss	12.7	3.1	0.6	11.0	6.2	33.6	17
Solid Waste Disposal	2.4	0.6	0.1	0.5	0.0	3.6	2
Miscellaneous	5.1	12.2	0.1	0.8	0.1	18.3	9
U.S. TOTAL	94.6	30.4	22.5	19.5	31.4	198.4	
BY PERCENT	48%	15%	11%	10%	16%		100%

Source: Environmental Protection Agency

TABLE NATIONAL AIR

POLLUTANT	DESCRIPTION
Sulfur Oxides	Result primarily from the combustion of sulfur containing fossil fuels. Their presence has been associated with the incidence of resporatory diseases, increase death rates and property damage
Particulate Matter	Particulate matter, either solid or liquid, may originate in nature or as a result of industrial processes and other human activities. By itself or in association with other pollutants, particulate matter may injure the lungs or cause adverse effects elsewhere in the body. Particulates also reduce visibility and contribute to property damage and soiling
Carbon Monoxide	Carbon monoxide is a by-product of the incomplete burning of carbon-containing fuels and some industrial processess. The most abundant source of this pollutant is the internal combustion engine. It decreases the oxygen-carryin ability of the blood and, at levels often found in city air, may impair mental processes.
Photochemical Oxidants	Photochemical oxidants are produced in the atmosphere when reactive organic substances, chiefly hydrocarbons and nitrogen oxides are exposed to sunlight. Photochemical oxidants irritate mucous membranes, reduce resistance to respiratory infection, damage plants and contribute to the deterioration of materials.
Hydrocarbons	Hydrocarbons in the air come mainly from the processing, marketing and use of petroleum products. Some of the hydrocarbons combine with nitrogen oxides in the air to form photochemical oxidants. The hydrocarbons standard therefore, is for use as a guide in devising implementation plans to achieve the oxidant standard.
Nitrogen Oxides	Nitrogen oxides usually originate in high-temperature combustion processes. The presence of nitrogen dioxide in the air has been associated with a variety of respiratory diseases. Nitrogen dioxide is essential in the natural production of photochemical oxidant.
Lead***	Airborne lead results primarily from automotive emissions. Symptions of mild lead intoxication include loss of appetite, drowsiness and abdominal pain. Ingestion is the prime method leading to elevated blood-lead levels. Airborne lead, by settling out, may contaminate dirt and dust thus becoming potentially harmful.

* Not to be exceeded more than once anually
** Combined effect of both gaseous phase and particulate
*** No National Standard for this pollutant exists, however the Oregon DEQ has adopted a lead standard for projects in the state

QUALITY STANDARDS

SAMPLING PERIOD	LOWEST CONCENTRATION FOUND TO PRODUCE ADVERSE HEALTH EFFECTS	PRIMARY STANDARD	MARGIN OF SAFETY	SECONDARY STANDARD
Annual arithmetic mean	115 ug/m^3	80 ug/m^3	30%	60 ug/m^3
24-hour maximum*	300-1,500 ug/m^3 occuring 3-4 days**	365 ug/m^3	0 to 76%	260 ug/m^3
3-hour maximum*	- - - -	- - -	- - -	1,300 ug/m^3
Annual geometric mean	80-100 ug/m^3 **	75 ug/m^3 (DEQ)	6 to 25%	60 ug/m^3
24 hour maximum*	300 ug/m^3**	60 ug/m^3 260 ug/m^3	13%	150 ug/m^3
8 hour maximum*	12-17 mg/m^3	10 mg/m^3	17 to 41%	Same as Primary
1 hour maximum*	56 mg/m^3	58 mg/m^3	31%	Same as Primary
1 hour maximum*	200 ug/m^3 (maximum daily value)	160 ug/m^3	20%	Same as Primary
3 hour maximum* (measured between 6 and 9 AM)	Adverse health effects noted only after reaction to photochemical oxidant	160 ug/m^3	- - -	Same as Primary
Annual arithmetic mean	118-156 ug/m^3 (mean 24 hr concentration over 6 mo period)	100 ug/m^3	15 to 36%	Same as Primary
One month Average*	- - -	3 ug/m^3	- - -	- - -

ug/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

The standards were established to protect the most sensitive groups within our society--children and the aged. The areas where these sensitive groups live, play, or work are identified as critical receptors. The effects of various concentrations of pollutants are listed in Tables 4,5, and 6.

7.3 Existing Air Quality

The existing air quality in the study area (summarized in Table 50) has been determined for six categories of pollutants using data collected by the DEQ and recent data collected by the Oregon State Highway Division. These pollutants include CO, HC, NO_2, TSP, Ozone (O_3) and lead. The data on CO, NO_2, TSP, and lead were obtained through the field study for this project.

The meteorological data used in this study was collected by one Meteorology Research, Inc. (MIR) unit. This unit is a self-contained weather system. The weather station measures and accurately (±2%) records the wind direction, wind speed, and air temperature. The data is recorded by a marker on a pressure-sensitive white moisture-resistent chart. The accuracy has been tested for speeds of less than 0.75 mph to more than 100 mph.

The meteorological data was put into table format using the computer program WIND2. The output of WIND2 is a Frequency Distribution Table suitable for use in constructing wind roses. A wind rose is a circular diagram of the percent frequency which winds from any given direction occur. The length of each line is proportional to the frequency of the wind from that particular direction. Wind roses for the project study period are shown in Figure 2-3. The wind roses were constructed only for winds less than 3 mph, since the highest pollutant concentrations are normally recorded during periods of low wind speed.

A visual comparison of the wind roses for the two years show no correlation except for the months of March and April. Possibly the winter storm season effected the local wind patterns enough to alter seasonal trends.

Topographic features in the project area range from isolated projections (buildings, hills) to depressions on level ground (canyons). As air passes over the natural or man-made obstacles, it is forced to change its pattern and thus turbulence is created. In the project study area, Sullivan's Gulch is the major terrain feature and will effect wind flow throughout the majority of the study area. Sullivan's Gulch will tend to channel winds parallel to the Gulch except during periods of extreme stability.

The CO samples were collected by sequential bag samplers which fill 12 bags with ambient air, one each hour, and store the air samples until this can be analyzed by an Ecolyzer. The CO concentrations were recorded to the nearest part per million.

TABLE EFFECTS OF CARBON MONOXIDE[a]

Concentration ppm	Exposure Time	Effects
5	20 min	Reflex changes in the higher nerve centers.
5 to 10	-	Average levels of CO in most large cities.
30	8 hrs or more	Impairment of visual and mental acuity (five percent carbonxyhemoglobin).
70 to 100	-	Maximum levels occuring in some large cities.
200	2-4 hrs	Tightness across the forehead, possible slight headache.
500	2-4 hrs	Severe headache, weakness, nauses, dimness of vision, possibility of collapse.
1,000	2-3 hrs	Rapid pulse rate, coma with intermittent convulsions, and Cheyne-Stokes respirtation.
2,000	1-2 hrs	Death

[a] All effect levels pertain to healthy individuals. Specific effect levels for individuals who for other reasons are approaching the levels of tolerability are not available

TABLE EFFECTS OF NITROGEN DIOXIDE

Concentration ppm	Exposure Time	Effects
0.1	-	Limit of acceptability for coloration effect in aerosol-free air with viewing distance of 10 mi.
0.25	-	Limit of acceptability for coloration effect in normal metropolitan area air with viewing distance of 10 mi when the visibility is 20 mi.
0.5	3 months	Increased susceptibility to infection in mice by certain aerosolized bacteria.
0.5	12-19 days	Significant growth reduction in tomato and bean seedings. No visible lesion damage, Chlorosis of leave reported.
1 to 3	-	Odor threshold.
2.5	7 hrs or more	Bean, tomato, and nicotina glutinosa leaves damaged with white lesions occuring
3	4-8 hours	Pinto bean leaf damage.
3.5	2 hours	Increased susceptibility to infection in mice by certain aerosolized bacteria.
13	-	Nasal and eye irritation noticeable

Source: Interstate Air Pollution Study, Phase II Project Report, Part 4 - Effects of Air Pollution. U.S. Department of Health, Education and Welfare. December 1966

TABLE EFFECTS OF OZONE

Concentration ppm	Effects [a]
0	Ozone considered radiomimetic - no safe level
0.01	Odor threshold of ozone
0.02 for 8 hours	Damage to tobacco leaves begins
0.03 for 8 hours	Significant damage to tobacco leaves
0.05	Nose and throat irritation threshold
0.05 for 1 hour	Damage to tobacco leaves begins
0.10 for 1 hour	Significant damage to tobacco lease. Pine tree needle tips burned.
0.05	Threshold for eye irritation in sensitive people (ambient oxidant)
0.15[b]	Generally stated eye irritation threshold for normal people (ambient)
0.10	Reduction in oxygen consumption and blood oxygen tension (concentration) levels of emphysema patients, compared to effects on some patients breathing filtered air (ambient)
0.1 to 0.25 long term	Shortens life span, increases mortality of guinea pigs
0.10 for 8 hours	Definite symptomatic effects in sensitive people
0.20 for 3 hours	Decrease of visual acuity
0.60	Cough irritation threshold, pronounced nose and throat irritation
1 for 1½ hours	Coughing, irritation, severe exhaustion
3 to 12 for few hrs	Lethal to small laboratory animals

[a] As determined from laboratory experiments using ozone except where otherwise noted. Ambient measurements are for "total oxidants".

[b] 0.25 ppm by the phenolphthalin method

Source: Interstate Air Pollution Study, Phase II Project Report, Part 4 - Effect of Air Pollution. U.S. Department of Health, Eductation and Welfare. December 1966

TABLE - SUMMARY OF EXISTING AIR QUALITY IN PROJECT STUDY AREA

Pollutant	Air Quality Standard 1/	Absolute Pollutant Concentrations	
		Average (all sites)	Maximum (at any site)
Carbon Monoxide	10 mg/m^3 8-hour average	2.9	12.0
Hydro-carbons	160 ug/m^3 averaged over 3-hour period from 6 to 9 AM	-	300 2/
Nitrogen dioxide	100 ug/m^3 annual average	65 3/	96 3/
Total Suspended Particulate 4/	60 ug/m^3 annual average	68	200
Photo-chemical oxidants	160 ug/m^3 one hour maximum	-	180 2/
Lead 4/	3 ug/m^3 one month average	1.4	2.1

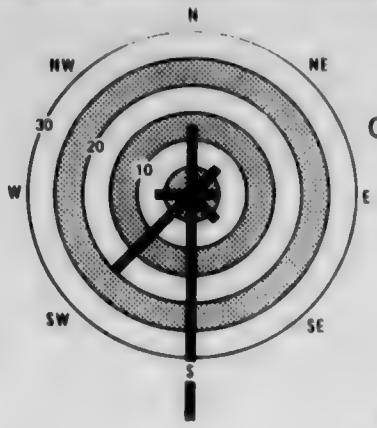
1/ See Table for complete list of standards

2/ Estimated worst case

3/ Monthly average shown

4/ Data obtained at one site only

FIGURE WIND ROSES FOR WIND SPEEDS
LESS THAN 3 MPH 1975 - 1976



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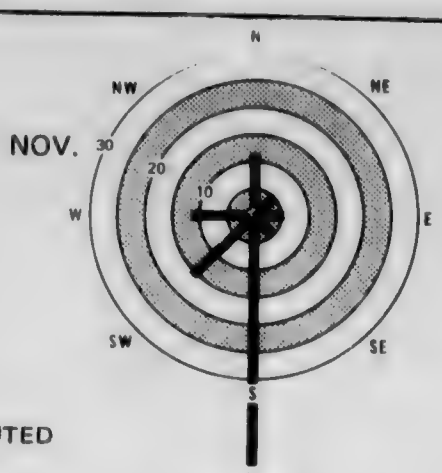

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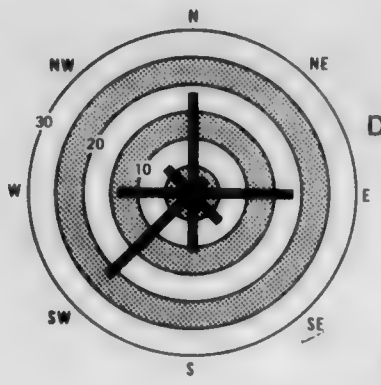
NOTE: CALMS DISTRIBUTED



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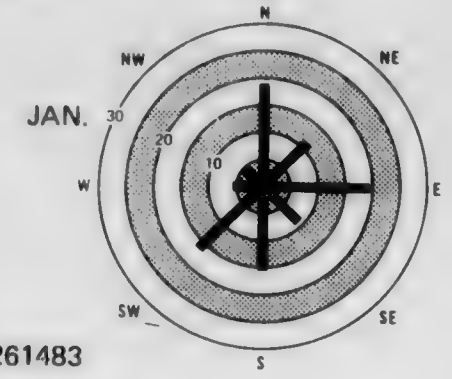

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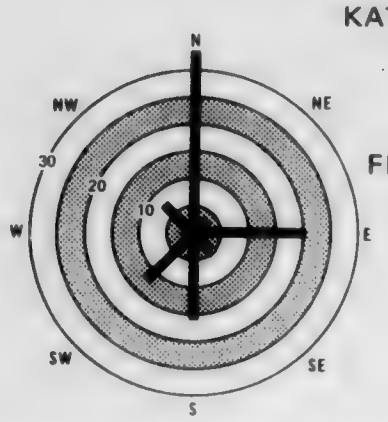
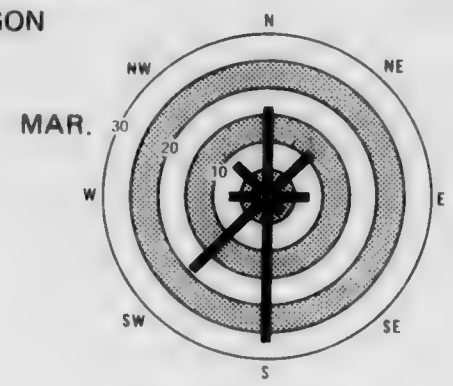
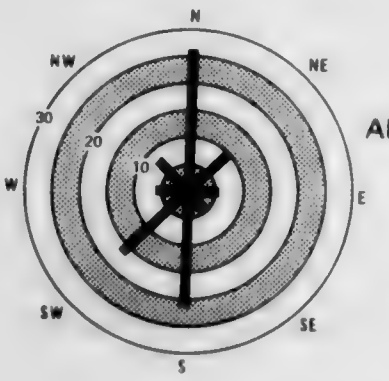
WIND STATION NO. 261483
KATU TV, 2153 NE SANDY BLVD.
PORTLAND, OREGON



FEB.



MAR.



APR.

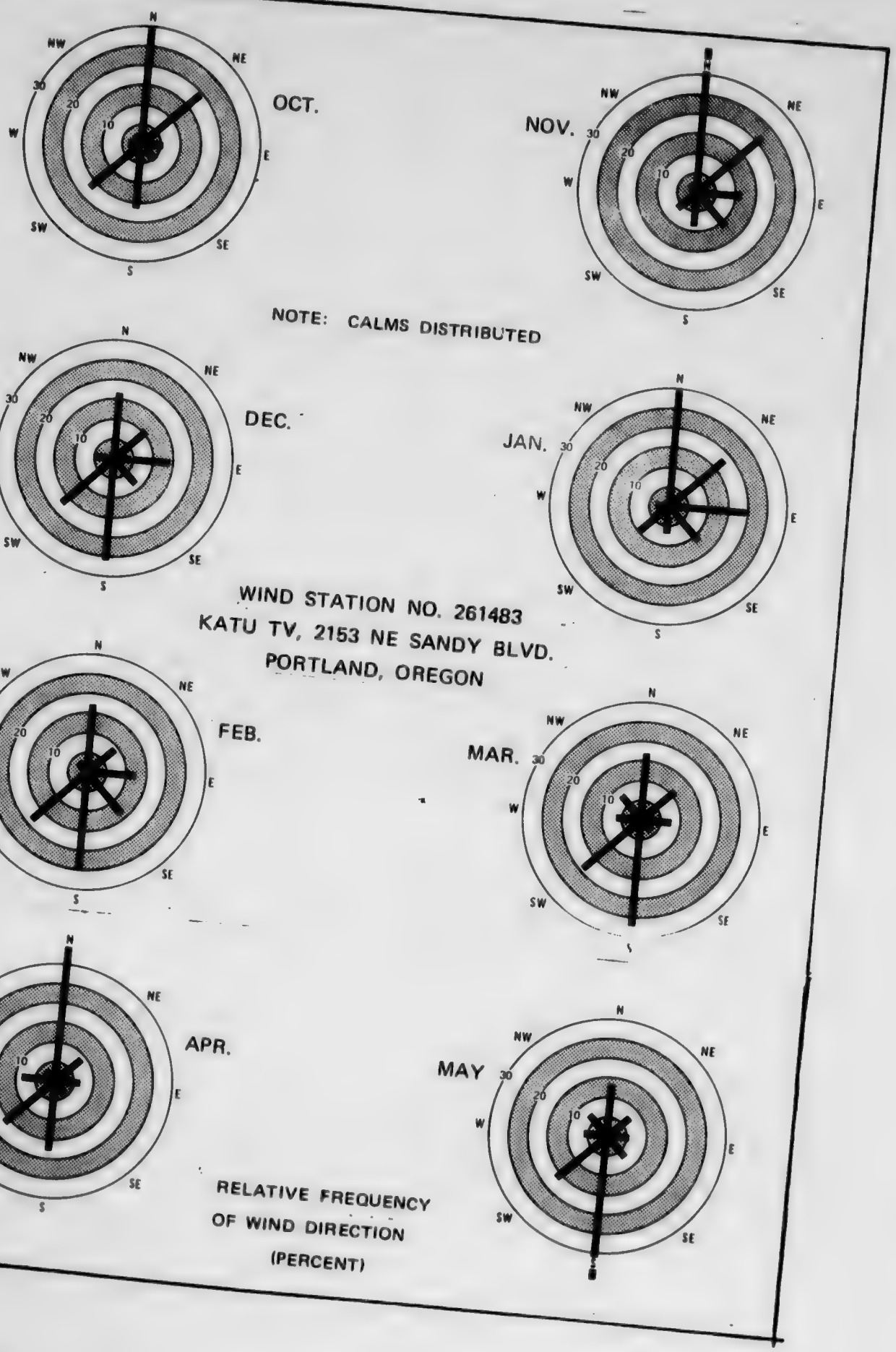
MAY

RELATIVE FREQUENCY
OF WIND DIRECTION
(PERCENT)

FIGURE

WIND ROSES FOR WIND SPEEDS LESS THAN 3 MPH

1976 - 1977



NOTE: CALMS DISTRIBUTED

WIND STATION NO. 261483
KATU TV, 2153 NE SANDY BLVD.
PORTLAND, OREGON

RELATIVE FREQUENCY
OF WIND DIRECTION
(PERCENT)

Measurements of carbon monoxide concentrations were made during late autumn and winter, encompassing the months that typically have the highest stagnation periods. The monitoring station at 19th and Multnomah was used as control for this project. This site was located furthest from the major transportation arterials. The area is characterized by high commercial, residential, and light industrial development surrounded by major transportation corridors.

From Table 2/ it can be seen that the average local concentrations of CO during the 12 months monitored for the 19th and Multnomah site was 2.9 mg/m^3 (8-hour standard of 10 mg/m^3). The average concentrations near the major parallel arterials was slightly higher at 3.6 mg/m^3. The 12 month average for the two sites located in the Banfield Cut recorded significantly higher readings and averaged 5.4 mg/m^3 for the 12 month monitored. These two sites located within the right-of-way never recorded a reading as high as the one-hour CO standard of 40 mg/m^3 and only recorded readings higher than the 8-hour standard on 17 days during the 12 months monitored (Table). Generally, pollutant concentrations at locations within the highway right-of-way are not compared to air quality standards. It is significant that these two sites located within the mixing cell of the Banfield Freeway did not record a higher percentage of reading above standard. None of the other monitoring sites recorded a reading in excess of the 8-hour standard.

The concentrations measured along the major parallel arterials were highest for the road with the highest traffic volume. Although no violations were recorded, readings of 6 mg/m^3 and 7 mg/m^3 were not uncommon.

The reason the Banfield Freeway does not show a direct proportional increase in CO concentration with traffic increases may be explained by the fact that CO emissions decrease as engine speed is increased. The emission of CO is therefore significantly influenced by the time of idle and low-speed operation. Low-speed operation is more representative of the arterial streets. By attracting traffic to the Banfield Freeway and off the arterial streets, average travel speed will increase and CO emissions will decrease.

The one continuous monitor of Nitrogen Oxides (NOx) was located at 19th and Multnomah. The recorded values for NO_2 are well below the standard of 100 ug/m^3 (annual mean). By continuing present control strategy in the Portland metropolitan area, violation of the NO_2 standard will probably never be recorded.

Nitric oxide (NO) is formed when combustion takes place at a high enough temperature to cause a reaction between the nitrogen and oxygen in the air. Temperatures this high are reached only in efficient combustion processes, such as those found in automobile engine cylinders. Nitric oxide, which is relatively harmless, will oxidize to nitrogen dioxide (NO_2), which is a considerably more toxic gas. The formation of NO_2 results from the chemical reaction between nitric oxide (NO) and ozone (O_3).

TABLE MONTHLY CARBON MONOXIDE AVERAGES

Date	47th & Banfield	19th & Multnomah	M.P. 1.46	20th & Sandy	21st & Broadway	22nd & Burnside
10/75	9.2	** 5.4	** 8.9	6.9	5.6	-
11/75	7.0	3.9	6.7	5.1	3.8	3.2
12/75	6.2	2.3	4.4	3.4	2.4	3.8
1/76	5.2	2.7	4.5	3.3	2.6	3.8
2/76	3.3	1.8	3.7	2.2	1.8	2.6
3/76	4.3	2.2	3.2	2.4	-	-
Av 75/76	5.9	3.1	5.2	3.8	3.2	3.4
10/76	6.2	-	5.3	4.3	3.3	3.8
11/76	6.7	3.2	6.7	5.1	5.2	4.2
12/76	6.0	2.3	4.3	3.3	2.3	3.9
1/77	5.9	3.8*	5.5*	4.4	2.6	4.2
2/77	4.4	2.7*	4.1*	3.3	2.6	3.3
3/77	4.6*	1.6*	3.1*	-	-	-
Av 76/77	5.6	2.7	4.8	4.1	3.2	3.9
Av 75/77	5.8	2.9	5.0	3.9	3.2	3.6

* The starting time of the twelve hour sampling period was changed from 0700 hours to 1200 hours.

** The 47th & Banfield and M.P..1.46 sites are located within the highway right-of-way.

TABLE 8-HOUR CARBON MONOXIDE VIOLATIONS [a]

Date	47th & Banfield	19th & Multnomah	M.P. 1.46	20th & Sandy	21st & Broadway	22nd & Burnside
10/75	4	0	2	0	0	0
11/75	2	0	2*	0	0	0
12/75	1*	0	0	0	0	0
1/76	0	0	0	0	0	0
2/76	0	0	0	0	0	0
3/76	0	0	0	0	0	0
10/76	0	0	0	0	0	0
11/76	1*	0	0	0	0	0
12/76	0	0	1	0	0	0
1/77	2*	0	2	0	0	0
2/77	0	0	0	0	0	0
3/77	0	0	0	0	0	0

[a] To violate CO 8-hour standards the value must be exceede more than once annually.

* One violation had a missing hour, visual trend inspection was used to determine value. The 47th & Banfield and 19th and Multnomah sites are located within the highway right-of-way.

High speeds and heavy acceleration produce the major portion of the NOx emissions. By attracting traffic to the Banfield Freeway from the arterial streets, average travel speed will increase and thus NOx emissions will also increase.

There are no physical sources of photochemical oxidants per se. They are formed in the atmosphere as a result of photochemical reactions between hydrocarbons and oxides of nitrogen. The chemical reactions which form these photochemical products are extremely complex and are still not fully understood. Some of the components of smog known to irritate the eye are formaldehyde, acrolein, peroxyacyl nitrate, and ozone.[1]

All of these pollutants share three properties. They are all formed by chemical reaction with other pollutants ("chemical"). The reactions forming then proceed much more rapidly in areas with intense sunlight ("Photo"). They are extremely reactive chemical substances acting as oxidizing agents ("oxidants"). Due partially to the fact that the photochemical process requires residence time in the atmosphere, photochemical oxidant is not considered on the local level, but is more a regional problem. Hence, it is difficult to determine the exact contribution of this particular project. If the control strategy for the entire Portland metropolitan area continues at its present or a more stringent level, violations of the ambient air quality standard for oxidant should be eliminated.

A small reduction in the emissions of NOx, according to J.D. Caplan, will no- produce any reduction in photochemical oxidant without a corresponding large reduction in HC.[2] The total peak hour emissions analysis (Table) shows a regional decrease in HC emissions. A slight reduction in photochemical oxidant potential would result. The reduction in HC emissions is due to the increase in speed of the vehicles diverted from the arterial streets to the Banfield Freeway.

Total suspended particulates (TSP) were monitored at the 19th and Multnomah sampling site with one High-Vol sampler. This type of sampler uses a vacuum pump (50 cfm) to pull an air sample through filter paper (8½x11") which removes the particulates from the air stream. The filter is then transported to the laboratory for analysis. The particulates collected on the filter paper can be weighed to determine the total particulate concentration and then the particulate can be analyzed chemically to determine the lead concentration. A sample is taken for a 24-hour period from midnight to midnight. From Table it can be seen that transportation is generally not considered one of the major contributors to TSP. However, the combustion of automotive fuel does produce particulate matter due to additive lead that is considered a health hazard. At present, there is no Federal standard for ambient lead, although one may soon be

1 "Highway Air Quality, Implementation Package No. 76-5, U.S. Department of Transportation

2 "Smog Chemistry Points Way to Rational Vehicle Emission Controls," SAE Transactions, J.D. Caplan; Vol. 74, 1966.

promulgated. The Oregon Department of Environmental Quality (DEQ) has adopted a State standard of 3 ug/m^3 (monthly average). A violation of the existing DEQ lead standard was never recorded during this study. The present phase-down in the amount of lead used as an additive in gasoline will not only reduce ambient lead concentration but will allow the continued use of catalytic converters as a control in vehicle emissions of carbon monoxide and hydrocarbons. From the available data it was not possible to find any correlation between ambient lead concentrations and existing traffic volumes. Without this correlation and the fact that lead emissions are not particularly speed dependent, no conclusions have been drawn as to the effect of the operation of the HOV lane on ambient lead concentrations.

7.4 Total Emissions Summary

Predictions of total peak hour emissions factors for the two project alternatives were made using an Oregon State Highway Division computer program. ALTEF (ALTitude adjusted Emission Factors). ALTEF is a Fortran program which calculates emission factors for all automobile-related pollutants using EPA methodology outlined in the publication Supplement No. 5 For Compilation of Air Pollutant Emission Factors, (AP-42); Second Edition; December, 1975. Input data consists of study year, county, vehicle mix, percent of vehicles in hot start operation, speeds and the percent of vehicles equipped with catalytic converters. Output consists of two tables for each set of input parameters. The first table (Figure ~~3~~) is a matrix for carbon monoxide, total hydrocarbons and nitrogen oxides for cold start operation from 0 to 40 percent and ambient temperatures from 20^0 to 80^0F. The second table (Figure ~~3~~7) lists all other emission factors which are not a function of ambient air temperature of operating temperature. The output from ALTEF is included in Appendix E. The emission factors calculated by ALTEF were used in a Total Peak Hour Annual Emission Analysis. The equation used in this analysis was:

Tons of Pollutant/Year = volume X roadway length X emission factor X conversion factor

Volume + peak hour traffic volumes Eastbound, P.M.

Roadway length = distance in miles over which the traffic volumes are effective.

Emission factor = computed by ALTEF grams/vehicle-mile

Conversion factor = coverts from grams to tons also from days to years

The results of the analysis are listed in Table __.

FIGURE
ALTEF PROGRAM SAMPLE OUTPUT

VEHICLE EMISSION FACTORS STUDY YEAR 1985 COUNTY-DESCHUTES
AP-42 SUPPLEMENT 5 LOW ALTITUDE

--------CATALYTIC CONVERTOR DATA--------

TYPE	PERCENT	SPEED	BEGIN	THRU	PERCENT EQUIPPPED DURING	AFTER	HOT START PERCENT
LDV	60.00	45	1975	1978	75.0	100.0	27
LDT	29.00	45	1975	1978	50.0	75.0	27
HDVG	6.00	43			CATALYSTS NOT CONSIDERED		
HDVD	5.00	43			CATALYSTS NOT CONSIDERED		

PERCENT COLD OPERATION

TMP	POL	0	5	10	15	20	25	30	35	40
20	CO	9.27	13.02	16.78	20.54	24.30	28.05	31.81	35.57	39.33
	HC	2,86	3.21	3.57	3.92	4.27	4.63	4.98	5.33	5.69
	NO	5.83	5.81	5.78	5.76	5.73	5.71	5.68	5.66	5.63
25	CO	9.66	13.05	16.44	19.82	23.21	26.60	29.99	33.38	36.77
	HC	2.99	3.25	3.55	3.86	4.17	4.47	4.78	5.09	5.39
	NO	5.85	5.85	5.71	5.69	5.66	5.64	5.62	5.60	5.58
30	CO	9.97	13.01	16.05	19.09					
	HC	2.99	3.26	3.53	3.79					
	NO	5.67	5.65	5.63	5.60					
35	CO	10.20	12.91	15.62	18.00					
	HC	3.03	3.24	3.49						
	NO	9259	5.58	5.56						
40	CO	10.37	12.77	15.17						
	HC	3.05	3.25	3.45						
	NO	5.51	5.50	5.00						
45	CO	10.47	12.57							
	HC	3.05	3.20							
	NO	5.43								
50	CO									
	HC									
	NO									
55	CO									
	HC									
	NO									
60	CO									
	HC									
	NO									
65										
70										
75										
80										

Ambient Air Temperature

Percent of vehicles operating in a "hot start" condition

Percent of vehicles operating in a "cold" start condition. As can be seen, values for each 5% increment from 0 to 40% are given.

The remainder of vehicles excluding heavy duty trucks are in a "hot stabilized" condition

NOTE: All emission factors are express in grams per mile.

POLLUTANT:
CO = Carbon Monoxide
HC = Hydrocarbons
NO = Nitrogen oxides (NO_x)

KEY TO VEHICLE TYPES

LDV = Light Duty Vehicle (Gasoline powered passenger automobiles)
LDT = Light Duty Truck (Gasoline-powered trucks under 8,500 gvw
HDVG = Heavy Duty Vehicles(Gasoline powered + 8,500 gvw)
HDVD = Heavy Duty Vehicle (Diesel)

HC FACTOR INCLUDES 1.50 GM/MI CRANKCASE AND EVAPORATIVE EMISSIONS

FIGURE

ALTEF PROGRAM
SAMPLE OUTPUT FOR MISCELLANEOUS POLLUTANTS

VEHICLE EMISSION FACTORS STUDY YEAR - 1985 COUNTY - DESCHUTES
AP-42 SUPPLEMENT 5 LOW ALTITUDE

TYPE	PERCENT	SPEED	CATALYTIC CONVERTOR DATA BEGIN	THRU	PERCENT DURING	EQUIPPED AFTER	HOT START PERCENT
LDV	60.00	45	1975	1978	75.00	100.00	27
LDT	29.00	45	1975	1978	50.00	75.00	27
HDVG	6.00	43	CATALYSTS NOT CONSIDERED				
HDVD	5.00	43	CATALYSTS NOT CONSIDERED				

VEHICLE EMISSION FACTORS
FOR MISCELLANEOUS POLLUTANTS

POLLUTANT		EMISSION FACTOR GM/MI
1. TOTAL EXHAUST PARTICULATE		0.1729253
2. LEAD		
	LESS THAN 0.3 MICRON	0.0022064
	0.3 TO 1.0 MICRON	0.0008826
	1.0 TO 9.0 MICRON	0.0017651
	GREATER THAN 9.0 MICRON	0.0039715
	TOTAL LEAD	0.0088255
3. TIRE PARTICULATE		0.2549999
4. TOTAL SULFUR OXIDES		0.2911799
5. SULFURIC ACID	MINIMUM	0.0122524
	MAXIMUM	0.0361713

BANFIELD HOV LANES STUDY
TOTAL PM PEAK HOUR EMISSION SUMMARY
STUDY YEAR 1977

Project Alternatives	Carbon Monoxide		Hydrocarbons		Nitrogen Oxides	
	Tons/Yr	Percent*	Tons/Yr	Percent*	Tons/Yr	Percent*
No Build	157.79	100%	22.34	100%	15.19	100%
Build (Banfield Traffic Only)	158.99	101%	22.79	102%	15.83	104%
Build (Minus Arterial Reduction)	122.65	78%	19.08	85%	14.59	96%

* Percent shows each pollutant relative to the No Build Alternative.

TABLE
BANFIELD HOV LANES STUDY
PM PEAK HOUR EFFICIENCY ANALYSIS
STUDY YEAR 1977

Project Alternative	Carbon Monoxide		Hydrocarbons		Nitrogen Oxides	
	lbs/person*	percent**	lbs/person*	percent**	lbs/person*	percent**
No Build	1.184	100%	0.026	100%	0.018	100%
Build (Banfield Traffic Only)	0.170	92%	0.024	92%	0.017	94
Build (Minus Arterial Reduction)	0.131	71%	0.020	77%	0.016	89

* lbs/person - the number of pounds of pollutant emitted for every person traveling the corridor in a year

** percent - shows each pollutant relative to the No Build Alternative

The traffic data used in the air quality analysis was for the p.m. peak hour between 39th and 74th on the Banfield. The p.m. peak hour traffic was used because the traffic volumes were the largest. However, the possible advantages from the change in traffic due to the operation of the HOV lanes are less in the p.m. than in the a.m. as noted in the traffic analysis. Therefore, any benefits shown by the p.m. traffic will be reflected even more so by the a.m. traffic.

The tonage of pollutants per year figures for the Build (i.e. the HOV lanes as constructed) and the No Build alternatives do not accurately reflect some of the subtle traffic differences involved in the operation of the HOV lanes. The fact that there is no specific traffic data from the period before the HOV lanes were built makes a comprehensive lane-by-lane analysis impossible. (Lane-by-lane traffic data was collected during HOV operation.) It is only through the comparison of lane-by-lane traffic data for the periods before and after HOV operation that the minor changes in air quality could have been determined.

From the Analyses of Traffic Flow characteristics it was shown that 390 fewer vehicles are using the city streets. Rather than add the pollutant burden produced by the arterial streets to that for both the Build and No Build, a simplified approach was used. Since the HOV lanes have reduced traffic on the arterial streets, this reduction was subtracted from the pollutant burden produced by the Build Alternative.

Thus, the tonnage per year figures for the Build Alternatives (minus Arterial Reduction) was computed by subtracting the tons of pollutants produced by the vehicles diverted from the arterial streets from the Build Alternative.

An attempt was also made to compare the efficiencies of the Build and No Build alternatives. This was accomplished by calculating the pounds of pollutant per person-year. A summary of these calculations can be found in Table 34. From the table, it can be seen the HOV lanes are moving more people while producing 8% less pollution per person.

7.5 Summary

The obvious way to reduce transportation related pollutants is to reduce the number of vehicles. As discussed in the State Clean Air Act Implementation Plan a reduction in the number of vehicles could result from an increase in vehicle occupancy. The purpose of this analysis was to determine if a change in the vehicle occupancy rate resulted from the operation of the HOV lanes and whether that change resulted in a reduction in traffic volumes. Further, it was necessary to determine if reduced traffic volumes corresponded to reduction in transportation related pollutants. A peak hour analysis of pollutant emissions resulting from the Banfield Freeway during HOV operation showed a two percent increase in CO and HC emissions over what would have been anticipated from this facility without the HOV lanes. However, this increase corresponded to a five percent

increase in traffic volumes and a ten percent increase in total vehicle occupants as compared to that which was anticipated. However, for those critical receptors located along the Banfield Freeway, the HOV lanes have added slightly to the potential for elevated pollutant concentrations.

In examining the traffic data for the parallel arterials, there has been an overall reduction in pollutants as a result of the HOV lane operation. The reduction in pollutants due to a three percent decrease in traffic on the arterial streets more than offsets the increase in pollutants due to the three percent increase in volumes on the Banfield Freeway. However, on an actual vehicle number basis, more vehicles were attracted to the Banfield Freeway than were reduced from the arterial streets. The Banfield Freeway has been able to absorb this growth without adding significantly more pollufants to the regional air shed. The reason the pollutant levels have not risen higher is due to the speed dependancy of emission factors. (CO and HC emission factors are significantly less for high speeds.)

Based on a regional total emissions analysis, the Banfield Freeway with the HOV lanes has beneficially reduced total emissions by about 14 percent while carrying 20 percent more people than the same facility in 1975 without HOV lanes. While the major region-wide emission reduction is best for CO, the reduction in HC and NOx emissions should reduce the potential for photochemical oxidant potential. The recorded lead concentrations are well below standard and do not appear to be appreciably affected by the regional traffic changes noted in this study.

7.6 Conclusions

1. Total emissions of all automotive pollutants have shown a short-term increase immediately adjacent to the Banfield Freeway, based on a comparative total emissions analysis. Increases in specific local concentrations could be expected to exhibit a similar, but not necessarily significant increase. During the study period no violations of the air quality standards for CO, NOx or lead were measured at any location outside the highway right-of-way.

2. A significant short-term reduction in total pollutant emissions resulting from vehicle operation on major arterial streets in the study area was noted. The net total emissions from these facilities and the Banfield Freeway was also less than what would have been predicted without the HOV lane operation.

3. The Banfield Freeway with HOV operation moves more people with less pollution emitted on a per person basis.

8.0 FUEL SAVINGS

One objective of the HOV lane project was to "provide a time and fuel savings to the traveler". The "fuel savings" portion of this objective was intended to mean that the project should reflect an overall reduction in the amount of fuel used by commuters when compared to the projected fuel consumption under a "No-Build" condition.

The amount of fuel savings was obtained by determining the amount of automobile travel distance saved as a result of the HOV lanes and dividing this figure by the average fuel consumption (MPG) for vehicles in Multnomah County.

The origin/destination and mode change responses to the 1977 Banfield User Survey were used to establish "trips not taken" and their length. The average fuel consumption for vehicles in Multnomah County was determined to be 15.36 miles per gallon. This figure was derived from Environmental Protection Agency fuel consumption estimates which are based on the percent distribution of vehicle age and the type of driving conditions being considered. The age distribution of Multnomah County vehicles was obtained from DMV vehicle registration records, and the average driving condition was considered to be a mixture of city and freeway driving.

In the following evaluations of fuel savings by transit and carpools, the month of June 1977 was considered representative and used to project annual ridership and carpool numbers.

8.1 Transit Rider Fuel Savings

The evaluation of transit savings has been limited to the Banfield Flyers only, since other buses use the HOV lanes for only part of their trip and have many short-haul passengers. The Flyers run express from the park-and-ride lots to downtown Portland and have no short-haul passengers. The two Banfield Flyer lines are discussed separately in the following:

a. Line #90 (Mall 205) 18.2 miles roundtrip

There were 127 persons riding on this bus line each day. The bus ridership survey indicated that 44 percent of these people were new riders and of these new riders, 63 percent previously drove their automobiles on the Banfield. This produced a total of 35 people who were no longer driving their car as a result of the HOV lanes. These 35 people traveled a total of 160,160 miles per year. If they had continued to use their automobiles, their fuel consumption would have been 10,433 gallons per year at 15.36 mpg. Instead, the people traveled in three buses and consumed 3,174 gallons per year (Tri-Met buses average 4.3 mpg) for a net savings of 9,544 gallons per year.

b. Line #91 (Fairview) 24 miles roundtrip

Following the same procedure as for Line #90 above, 140 new riders who previously drove their automobiles were gained. These 140 people traveled a total of 1,190,000 miles per year. If they had continued to use their automobiles, their fuel consumption would

have been 10,427 gallons per year at 15.36 mpg. Instead, the 140 converts traveled in 7 buses and consumed a total of 2,735 gallons per year for a net savings of 74,739 gallons per year.

8.2 Carpool Fuel Savings

Fuel consumption reductions made possible by persons carpooling are determined for the peak rush hours only and projected for the full HOV lane hours.

8.2.1 Peak Hours Only

The figures used are obtained from the Banfield HOV lane monitoring program and cover the AM period 7:00-8:00 and the PM period 4:30-5:30. Percentages and distances are derived by using the Carpool Users Survey taken in November 1976.

a. Present Peak Hours Fuel Consumption of HOV Lanes

The HOV lane monitoring program counted 173 HOV lane carpool vehicles westbound during the AM peak hour from 7;00-8:00. The eastbound count was 242 carpool vehicles in the HOV lanes between 4:30 and 5:30 pm.

Present Carpool Fuel Consumption

Westbound	Travel Percent	Distance Traveled	Carpool Vehicles	Daily Vehicle Miles (DVM)
	2.0	4.0	3.5	14.0
	22.5	5.0	38.9	194.5
	1.0	6.0	1.7	10.2
	32.7	8.6	56.6	486.8
	6.1	10.6	10.6	112.4
	5.1	15.0	8.8	132.0
	13.3	15.1	23.0	347.3
	2.0	17.3	3.5	60.1
	1.0	18.0	1.7	30.6
	10.2	18.5	17.6	325.6
	4.1	20.0	7.1	142.0
	100%		173	1,856

Eastbound	Travel Percent	Distance Traveled	Carpool Vehicles	Daily Vehicle Miles (DVM)
	2.0	4.0	4.8	19.2
	22.5	5.0	54.5	272.5
	1.0	6.0	2.4	14.4
	32.7	8.6	79.1	680.3
	6.1	10.6	14.8	156.9
	5.1	15.0	12.3	184.5
	13.3	15.1	82.3	487.7
	2.0	17.3	4.8	83.0
	1.0	18.0	2.4	43.2
	10.2	18.5	24.7	457.0
	4.1	20.0	9.9	198.0
	100%		242	2,597

TOTAL DVM - 4,453

The carpool vehicles had traveled a total of 4,488 miles a day. The average motor vehicle in Multnomah County gets 15.36 mpg which means that the carpool vehicles consumed 206.3 gallons of fuel per day or 51,579 gallons for a 250 working day year.

b. Fuel Consumption if Carpool Users Returned to Their Former Travel Modes.

The present 173 westbound carpool vehicles each contain at least three people which means that these vehicles are carrying A TOTAL OF 519 people. The 242 eastbound carpool vehicles would be carrying 726 people. The Carpool Survey indicated that 30 percent of the carpoolers used to drive alone. If these people returned to their former commuting habits they would need 155 vehicles westbound and 217 vehicles eastbound. Of the 519 people in the westbound carpool vehicles, 34 percent had been a 2-person carpool. If they had returned to their old travel mode, they would have added 88 vehicles to the Banfield (519 X 34%÷2 people) and 123 additional eastbound vehicles. Three-person carpools were used by 36 percent of the 519 westbound carpoolers. They would contribute 62 more westbound vehicles to the Banfield totals and 82 more vehicles would be needed eastbound. The total vehicles needed westbound would be 305 while 427 would be needed ~~westbound~~ EASTBOUND to move the present number of people.

Carpool Fuel Consumption If Travelers Returned To Former Modes

	Travel Percent	Distance Traveled	Carpool Vehicles	Daily Vehicle Miles (DVM)
Westbound				
	2.0	4.0	6.1	24.4
	22.5	5.0	68.6	343.0
	1.0	6.0	3.1	18.6
	32.7	8.6	99.7	857.4
	6.1	10.6	18.6	197.2
	5.1	15.0	15.5	232.5
	13.3	15.1	40.6	613.1
	2.0	17.3	6.1	105.5
	1.0	18.0	3.1	55.8
	10.2	18.5	31.1	575.4
	4.1	20.0	12.5	250.0
	100%		305	3,273

	Travel Percent	Distance Traveled	Carpool Vehicles	Daily Vehicle Miles (DVM)
Eastbound				
	2.0	4.0	8.5	34.0
	22.5	5.0	96.0	480.0
	1.0	6.0	4.3	25.8
	32.7	8.6	139.6	1,200.6
	6.1	10.6	26.1	276.7
	5.1	15.0	21.8	327.0
	13.3	15.1	56.8	857.7
	2.0	17.3	8.5	47.1
	1.0	18.0	4.3	77.4
	10.2	18.5	43.6	806.6
	4.1	20.0	17.5	350.0
	100%		427	4,483

TOTAL DVM - 7,756 miles

If the present carpoolers returned to their former travel habits, they would travel 7,756 miles per day and their vehicles would consume 126,250 gallons of fuel for a 250 work day year at 15.36 mpg. When the 72,500 gallons of fuel presently being consumed by the carpoolers is subtracted from 126,250, a net savings of 53,750 gallons of fuel per year is evident.

8.2.2 Carpool Fuel Savings For Full HOV Lane Hours

The westbound HOV lane hours (6:30-9:30 AM) carry 212 percent of the peak hour volume and the eastbound HOV lane hours (3:30 - 6:30 PM) carry 270 percent of the peak hour volume.

	Total Distance Traveled During The Peak Hour		Percent Of Peak Hour		
Westbound	1,417 Miles	X	212%	=	3,000
Eastbound	1,886 Miles	X	270%	=	5,100
		Distance Saved			8,100 Miles

During the full HOV lane hours an estimated 8,100 vehicle miles are saved daily. At 15.36 mpg, 527 gallons of fuel are saved daily with an annual savings of 131,750 gallons.

8.3 Fuel Consumption Savings For Full HOV Lane Hours For Carpool And Transit Per Year

The Banfield Flyers and carpoolers save a total of 202,650 gallons of fuel annually. At 62 cents per gallon, a $125,640 cost savings is realized. By combining the savings in travel time (Section 3.3) with the fuel savings, a total of approximately $378,640 was saved as a result of the HOV lanes.

9.0 PUBLIC ATTITUDE

The most negative public responses to the HOV lane concept occurred prior to the actual opening of the preferential lanes to traffic. Apprehension concerning the narrow lanes and no shoulders, and resentment that "taxpayers" who have paid for the HOV lanes are prevented from using them, was evident in frequent editorials and in a considerable number of letters and telephone comments received by the ODOT Metro staff. After the opening of the HOV lanes, the adverse comments gradually became balanced by, and eventually surpassed by, constructive advise on how to make the project operate better, and general support for the facility as an interim solution to the transportation problem in the corridor. Majority acceptance of the HOV lanes may, or may not, be evidenced by the fact that a bill introduced in the last Oregon legislature to abolish the HOV lanes did not get enough support and the bill's sponsor withdrew it.

The following pages provide a representative sample of editorials which appeared in Portland area newspapers:

Speeding Traffic on Banfield

Each motorist who used the Banfield Freeway will have his own reaction to plans for a restricted lane devoted to buses and carpool vehicles.

Probably most motorists won't like it because carpool cars are designated as those with three or more passengers, and present traffic counts show only about 5 percent of cars using the Banfield have three or more persons.

Thus, the one-man-to-a-car commuter will be penalized, the family with only two members will be penalized and owners of cars which will hold no more than two persons will be penalized.

However, they already are being penalized by traffic jams which, at rush hours, slow traffic movement to about 12 miles per hour.

Two lanes will still be open without restriction; and if the shift to buses and carpools lightens the load on the freeway, traffic should speed up.

The average motorist resents any order which tells him where and how he can drive, but the Banfield, boxed in as it is, presents a peculiar problem.

The proposal by the State Highway Division deserves a reasonable trial.

OREGON JOURNAL
Wednesday, May 21, 1975

One Lane Favored

To the Editor: Richard Colby's article in The Oregonian on Jan 21 about the Oregon Highway Division's exploring the idea of restricting one lane to buses and car pool vehicles prompted me to write to you.

I don't see why it should take so long for some action, if they really want to cut down on private car use.

Signs could be posed on the freeways leading to downtown Portland saying that during the rush hours all cars and pickup trucks with just the driver would be restricted to the slow lane. Cars with two or more people, trucks and buses could use the fast lanes. Non-eligible vehicles in the fast lanes could be given traffic tickets.

It wouldn't take long, after paying a few heavy fines and seeing the other carpoolers and buses going on by before the people would soon make an effort to ride the bus or get in a carpool, especially the people who drive to downtown Portland and leave their cars parked all day.

This seems to me to be a much simpler method than creating another lane, especially as it is only needed during the rush hours. There would be enough traffic tickets issued for awhile at least to pay for the needed signs and the extra police patrolling that it would take.

It would most likely create a traffic jam in the slow lane, but that is what is needed to get people out of their cars to ride the bus downtown.

L. HINMERS,
4035 N. Colonial St.

Is It Legal?

To the Editor: The Oregon State Highway Department is to be commended for adding on an extra lane to the Banfield Freeway. However, the concept of restricting the fast, inside lane to five or six buses every half hour, along with those cars which carry three or more passengers, is unworkable, uneconomical, unenforceable, and perhaps, illegal.

It is questionable that restrictions can be made upon tax-paying motorists, or favoritism given to a local transit system, on an interstate highway funded with federal funds and taxpayers' dollars, including state and federal gas taxes.

We who drive that freeway can envision, if the Highway Department can't, the chaos at the Lloyd Center exit when the Troutdale bus, along with other three-passenger vehicles, chooses to exit there, having obediently remained in the inside lane to that point.

I have not asked the Highway Department how it intends to keep the three-passenger vehicles in that inside lane and the rest of us out.

The idea of three narrower lanes with restricted speed would be a big improvement at a relatively small cost. Most prudent drivers use the lane they need to get where they want to exit.

CLIFFORD L. CARLSON
1006 N.E. 131st Pl.

Congestion Relief

To the Editor: I would like to reply to Clifford Carlson's comments about the Banfield Freeway that appeared in "The people own corner" on August 5.

Exclusive and preferential use of highways can be found throughout the United States - in the West, in Los Angeles, San Francisco and Seattle. In Oregon the Legislature amended ORS 483 to authorize the Department of Transportation to "Designate lanes to be used exclusively by buses or high-occupancy use passenger vehicles for the purpose of conserving energy and facilitating public transportation".

The additional lanes on the Banfield will be reserved for buses and carpools with at least three persons. The remaining lanes (same number as at present) will be for use by all, including buses and carpools if they choose, and depending upon their destination.

Enforcement may be difficult, it is to be accomplished by the State Police with additional patrols. A high dependency for enforcement will rest with the motorist, as with the case in all highway law.

The purpose of the project is to relieve traffic congestion by increasing the people-carrying capacity to provide incentive for increased bus and carpool use. There will be immediate relief, and, therefore, benefit to the lanes assigned to to all motorists by diverting existing buses and carpools to the additional lanes. In addition, 10 buses being acquired by Tri-Met to be used exclusively as "Banfield Flyers" have the potential of removing 500 people, and 400 autos from the remaining lanes.

The incentives to entice those persons who have the opportunity to carpool to do so will remove three cars from the lanes assigned to all persons for each carpool established. The potential for substantial relief to all motorists exists with this project, while at the same time reducing the use of engergy, air pollution and congestion at the freeway terminal.

R.N. BOTHMAN,
Assistant State Highway Engineer
5821 NE Glisan

Banfield Butchered

To the Editor: Those of use who regularly use the Banfield Expressway are experiencing a mounting horror these days as we see the remodeling changes being made on that much-traveled east-west freeway.

Talk about a well-engineered death trap. Anyone can foresee the problems in trying to make a six-lane expressway out of one intended for four-lane use. As in this case, the result can only be confusion and considerable because drivers will have to watch continually for narrowing stretches as the highway passes beneath underpasses and areas where widening could not be accommodated.

As if that weren't enough, proximity to the center guard rail is being narrowed over much of the route, giving drivers less leeway in case of swerving.

If one is forced to stop because of motor failure, I shudder to think what could happen. When the current remodeling is completed, it appears there will be little or no shoulder on the highway for emergency parking. True, neatly spaced turnouts have been provided every one-half mile or so, but whose engine is going to conveniently go dead or a tire go flat so that the driver may turn quickly into one of these spots?

I have never had any definite opinion for or against the idea of a Mt. Hood Freeway, now abandoned, but it seems that completion of that highway would have been a far more prudent plan to ease east-west traffic problems than butchering the Banfield.

Whose idea was this?

JANETTE L. SCHNEIDER
3310 NE 36th Avenue

Banfield Explained

To the Editor: In response to letters "To the Editor" of October 12 and 22, the Oregon State Highway Division is developing high-occupancy vehicle lanes on the Banfield Freeway.

The purpose of those lanes is to carry buses and carpools with three or more people in order to relieve congestion in the other lanes.

Safety features have been added to the freeway, such as the concrete median and shoulder barriers, turnout lanes, raised pavement buttons, skid-resistant surfacing, breakaway light standards, etc. to compensate for the reduction in lane widths.

A glare screen, similar to the one on I-5, was considered for the Banfield, but the $150,000 for construction was not available. A partial installation is now being considered.

The height of the barrier is based upon a design which will contain autos that strike it.

The project on the Banfield is a "doable" project; that is, one that is possible to implements in a short time. It is not intended or anticipated to provide for the east-west movement in Southeast Portland. It will, however, provide immediate relief until a permanent solution can be developed by the people in the metropolitan Portland area.

R.N. BOTHMAN,
Assistant State Highway Engineer
5821 NE Glisan

Ideas for Banfield

To the Editor: I am writing in regard to the Banfield Freeway project, and have several suggestions that I feel would improve its efficiency.

I have spent much time parked at the side of the roadway observing traffic flow and speeds. The freeway is far safer than it has been for years, and I feel the 50-mile-per-hour speed limit of the past should be reinstated. Forty-five miles-per-hour seems too conservative, and in order to obey it, one must actually impede the traffic flow.

Of highest concern to me are the express lanes, which definitely need changes in their application. During the non-rush hours the lanes are rarely used, and a carpool at 2 o'clock in the afternoon is an uncommon sight. In one short span I personally counted two autos in the express lane, while 43 drove by in the other lanes. The Tri-Met bus system makes little use of the restricted lanes except during rush hour, so often there is unnecessary congestion in the other lane.

I believe the restricted lane concept is a good one, but it should be changed to apply in heavy traffic hours- 7-9a.m. westbound and 4-6p.m. eastbound would seem like practical hours to me.

I hope these ideas are followed so that our Banfield will become usable for all, and an example for the rest of the country.

LES POOLE,
14021 SE Stark St.

Banfield HOV lane has few friends

If there is anything hard-core opponents of the proposed High-Occupancy Vehicle lane on the Banfield freeway hate more than the lane itself, it is the buses that will use it.

The outpouring of venom toward the lane that will be restricted to High-Occupancy Vehicles (HOV) at a State Highway Division hearing last week was matched almost complaint for complaint by disgust with buses.

Clearly the eight or nine persons who testified against the HOV lane were in most cases confirmed users of automobiles and trucks, and in some cases they were not in a position to use buses to commute.

Their doubts that buses have any resonable ridership as weel as their antipathy for bureaucracy in general and the Tri-Met bureaucracy specifically proved to be a trial for Steve McCarthy, Tri-Met assistant general manager who spoke at the hearing.

The HOV lane, which will be used only passenger vehicles with three or more persons, has been achieved by reducing lane widths and wiping out emergency stop lanes and replacing them with occasional turnout areas.

The much needed new pavement and improved median barrier are not enough to mollify those who see danger in the concept.

A state by Max Klotz, metrololitan planning engineer for the Highway Division, that the experimental project will be revised or even killed if necessary, drew a question asking, "How many persons will have to die before such action is taken?"

The real hangup for some of the group, although, was the disdain for the bus. Charges that buses have few passengers, resentment at public financing of the system, accusations of noise and air pollution by buses and a variety of "Big Brother" complaints joined some of those attending in a kind of ugly camaraderie. One person in the audience even tossed out a half-worded threat that shingle nails would be spread on the freeway lane.

The bus riders or supporters were not heard from publicly at the hearing with the exception of a man representing a Portland architect group that favors mass transit and car pools.

One woman was heard to mutter quietly to herself or a companion, when a man suggested getting rid of all buses, "What about those people who don't drive?. She did not speak up, however,

There was agreement that both the Highway Division and Tri-Met probably have approached the experiment in a different position.

Klotz noted that this hearing should have been held sooner, even though it was not required and there was one last May at which only two persons spoke.

When the Highway Division and Tri-Met announced the HOV lane promotion campaign the same day the division announcement of the hearing arrived in the mail, persons interested thought it a bit odd. That kind of timing was a reason cited by one man at the hearing who called the process a whitewash.

Klotz made a good pitch for the lane and noted that present commuters will not lose a lane since one has been added, however wisely or otherwise, and he said the division realizes the lane will be "pretty empty" until car pools and bus riders learn of its advantages.

McCarthy and his colleagues know they have to make strong efforts to reach east Multnomah County commuters with information about the park and ride stations at Multnomah Kennel Club and at Mall 205 and Gateway shopping areas.

He also will have to convince potential riders that the five minutes they will save by taking the added peak hour runs on the freeway is a valid reasons to switch to Tri-Met. He maintains that that much time is a draw for potential riders and that in terms of a bus agency itself can be a big money saver when applied to numberous runs each day. About 280 trips are made on the Banfield now, although not all would use the HOV Lane.

Sunday Oregonian 11/23/75
by Dan Hortsch, staff writer

HOV Lanes Working

To the Editor: Mr. Gary Smith reported that on Jan.14 he observed an empty restricted lane on the Banfield Freeway. One might think that the restricted lanes are never used if you're driving along and there's no one in the lane adjacent to your car.

I personally conducted counts of carpools in the HOV Lanes while standing on the 47th Street overpass.

On Jan. 26, 4:30-5:30 p.m. a total of 191 valid three-person carpools were in the high-occupancy vehicle (HOV) lanes. On Jan. 27, 7-8 a.m., a total of 193 valid three-person carpools used the lanes.

When the total number of cars on the freeway is computed, with Tri-Met passenger counts added in, 20.76 percent of the morning commuters are in the restricted lanes in 5.52 percent of the vehicles. In the evening, 22.5 percent of the commuters are in 5.6 percent of the vehicles.

Bus ridership is up; carpools have increased; the people like it so the lanes are working.

JERRY W. LOWE,
Carpool Project Coordinator
520 SW Yamhill Street

HOV Rules Tight

To the Editor: The rules pertaining to the high-occupancy vehicle lanes on the Banfield Freeway should be changed so that trucks could use them as well as buses and carpools, allowing all trucks and trailers which have combination of three axles or more and a gross weight of 28,000 pounds to use those lanes; or it could be broadened to include smaller trucks as well.

A change of this sort would eliminate some of the congestions and solve some of the problems which exist at the present on that freeway.

DAN MOSEE,
Multnomah County Commissioner
County Courthouse
620 S.E. Main Street

Oregonian 10/31/76

Cancel That Idea

To the Editor: Commissioner Dan Mosee is on the wrong track when he advocates opening the HOV Lane of the Banfield Freeway to trucks.

His plan would not"...eliminate some of the congestion and solve some of the problems..." but would do just the opposite. One has merely to ride either direction between 18th and 73rd Avenues on the freeway to see the many places where trucks have already left their calling cards in the form of scrapes on the center divider and wiped out portions of the glare shield.

This freeway is really too full of curves for the larger trucks and the lanes are too narrow. This is apparent to anyone who has seen these monsters continually zigging and zagging across the lane divider lines. Also, don't forget that trucks impede the vision of car drivers.

By the way, shouldn't Oregon's law which restricts trucks and campers to the right-hand lane be applicable to the Banfield?

JACK RUBECK
356 NE 114th Avenue

Banfield Compliment

To the Editor: Just a few good words on the recent Banfield modifications.

I recently had a mechanical problem and was forced to pull into an emergency turnout. I noticed a call box and lifted the receiver, and the sheriff's office answered. I told them to call my son to bring tools and asked them to give a message to my wife. All this was done in an efficient and courteous manner. I was back on the road in one hour.

I believe those responsible should be complimented.

JOEL SAPPENFIELD
7515 SE Mill

Oregonian 3/20/76

HOV Lane Backer

To the Editor: This is regarding the recent letter from R.E. Cook on the failure of the Banfield Freeway's high-occupancy vehicle lane.

Yes, it is a failure. But only until people like Mr. Cook get tired enough of getting rear-ended and spending an hour driving home that they finally join a carpool. The choice is theirs.

JOHN FRASER JR.
9207 SW 26th Avenue

Oregonian 6/4/76

Diamond Lane

To the Editor: Some months ago the diamond (high-occupancy vehicle) lane was born, at which time it seemed to be a reasonable idea and an honest effort.

However, over the months, the diamond lane has done little but cause irritation with the driving public, and the concept has defeated itself - more gasoline is spent in traffic jams than is saved from the cars pooling.

The diamond lane is also highly discriminatory. Car-pooling is limited to but a few people who live in the same approximate area east of the city, work in the same vicinity of the city and have the same hours.

It appears that consideration for vehicles, other than the standard automobile and occupational differences were neglected during the conception of the diamond lane.

Are not motorcycles and two-seat sports cars, which are physically incapable of carrying three passengers discriminated against? And also those who travel the Banfield each day but find it impossible to car-pool because of different destinations every day? For example, the salesman making calls, the trucker taking deliveries to various places in the city, the construction worker carrying materials and working at different job sites every couple of days, the taxi driver picking up fares, tourists under three people, and the list could go on. Are not all these drivers being discriminated against?

Obviously, those who enforce the idea of the forbidden lane all work in the same office building and can see no reason why everyone can't car-pool. Their view of the flow of traffic in and out of the city is very limited. (These same people probably live in the Southwest, which is why I-5 was excluded from a diamond lane.)

I believe it is time to gracefully admit defeat and put our law enforcement officers back to work protecting the public instead of chasing single and double drivers down the diamond lane six hours a day.

JAMES R. ALMBLAD
10935 N.E. Fargo Street

Oregonian 11/11/76

HOV criticized at hearing

Elimination of the HOV Lanes on the Banfield would not open the freeway to six lanes of traffic, Don Adams of the Oregon Department of Transportation told a small crowd at a public hearing at Centennial Highschool Wednesday.

The hearing was on the Banfield Transitway proposals, but the HOV Lanes sparked the most controversy.

Most agreed that the lanes should be eliminated and the Banfield opened to six lanes of traffic.

However, Adams said that should the lanes be eliminated, the freeway would revert back to its original four-lane status, with no HOV or additional traffic lanes.

In a later interview, Bob Bothman, metropolitan engineer for ODOT, said the department would have to apply for an indirect source permit from the Department of Environmental Quality (DEQ) before the HOV lanes could be open.

"If we drop the HOV, we have to get an indirect source permit. This means we have to prove that six lanes of traffic would have no harmful effect on the air quality, noise levels and other environmental factors," Bothman said.

"Obviously there would be an increase in the noise levels and air (contaminants). We're exceeding the noise levels on the Banfield now and are borderline on the air quality".

Asked what the chances were of the DEQ approving an indirect source permit under these conditions, Bothman said, "I see none."

Tony George, transporation program coordinator for the DEQ, said air quality levels on the Banfield probably are exceeding allowable measures.

"The situation may be worse than borderline on the air quality level," George said. "It may be that the Banfield is violating standards."

He said new tests will be run on the Banfield soon.

George said the HOV project was approved without an indirect source permit because it is a temporary project with a definite time limit. "The only option if the Banfield is eliminated is to restripe the lane with shoulders," George said.

However, he added that action by the state legislature to eliminate the HOV could supersede DEQ requirements.

Sen. Vern Cook, D-Gresham, has introduced such a bill, and said he is sure passage would overrule any DEQ regulations. "This would supersede any DEQ authority. I'll make damn sure of that," said the critic of the HOV.

Cook has written into the bill that the HOV lanes would become general traffic lanes upon passage of the measure.

Cook said he anticipates opposition to the bill from both ODOT and the DEQ. "They're going to throw the Environmental Protection Agency and the DEQ and whoever else they can find at us."

Cook said the air quality and the noise levels will improve on the Banfield if the HOV is removed because more traffic would move smoothly and cars would not be "just sitting there burning up gas."

"The assumption is that if people are not driving the Banfield they will take the bus. I don't buy that assumption. If people can't drive on the Banfield they will take Halsey, Burnside and Division."

Cook's bill is scheduled for a hearing April 1, at 3 p.m. in Salem.

ODOT's Bothman said the HOV project will be evaluated in July after a study is completed on the project. At that time it could be eliminated and go back to four lanes of traffic or continue as is.

Gresham Outlook, 3/7/77

SOUND OFF:

Should the HOV lanes on the Banfield be ended?

(Asked on SW Alder Street)

By O'RYAN

JACK LEMBECK, writer, Downtown. If they were planning to turn them into rail (transit ways) then it would be a good idea. But since the buses have to get in and out of traffice, I don't see the advantage.

JIM MURPHY, claims manager, Lawrenceville, NJ. No not at all. I think experience has shown that you have to make some provision for public transportation. I think the largest turnpike in the country is the New Jersey Turnpike, which has provisions for public transportation, and its made it a lot better and it's cut down on accidents.

VICTORIA LOOMIS, student, Forest Grove. I think it's a good idea. But I think the lanes should be on the outside rather than on the inside. They are used for buses, but the buses are slower and they have to get over and come off the freeway frequently.

NANCY LORENZ, office clerk, Tigard. I think it's a hazard because of the narrowness of the lanes. It seems like a waster considering they need more space for cars because there are more of them using it all the time than an occasional bus.

BOB DORMAN, dance teacher, North. I don't use it very much except during the off hours, but I think it's a good idea to reserve lanes for mass transit. I think we're going to have to go that way eventually. They should do it all over town if they're going to do it.

OREGON JOURNAL 8/6/77

10.0 EVALUATION OF MONITORING PROCEDURES

The monitoring program was based on procedures contained in the Transportation and Traffic Engineering Handbook, 4th Edition, published by the Institute of Traffic Engineering, and on air quality guidelines received from the Oregon Department of Environmental Quality (DEQ). This section will evaluate the effectiveness of the resultant monitoring procedures.

10.1 Traffic Flow

The traffic flow section is broken down into its individual components for evaluation.

a. Traffic Volume (AWD) Automatic counters with loops placed in the pavement were positioned on the Banfield at 21st Avenue to record all the traffic on the freeway. The volumes are recorded by direction, hourly, on a printed tape. The tapes are sent to Salem where they are processed by the Highway Division's Traffic Section. The automatic counters were in position several years before the Banfield HOV lanes were implemented and provided background AWD data.

In calculating the AWD, holidays, weekends, and days of unusual traffic conditions, such as severe accidents or weather, were not included.

b. Average Speed During the speed run, the recording person starts a stopwatch at the beginning of the run and records the time at each check point. This procedure has proven to be satisfactory.

c. Vehicle Occupancy It was found that it is only necessary to count in the peak direction.

. The counting requires a tremendous amount of concentration and is difficult to continue over a long period of time since the movement of cars tends to have a hypnotic effect on the person making the counts.

The counting should be expanded to count four or more occupants per vehicle. Presently, any vehicle with three or more occupants is listed as having just three persons. A spot count for four or more occupants showed that there were about 11 percent more people in the HOV lanes than were shown by using the existing procedure of recording no more than three people per vehicle. The DART (Downtown Airport Rapid Transit) bus should be included in the HOV lane occupancy counts. At the present time, they are counted as a non-transit passenger vehicle showing no more than three people.

The counts are felt to be fairly accurate except in extreme light conditions. In the winter the light may be poor to see inside the car. When the sun is low in the sky it may shine in the observer's face and prevent him from seeing into the car. Windshield glare from the position of the sun may also prevent seeing inside the vehicle.

d. Peak Hour Lane Count The count is accurate but a tedious process. The same hypnotic effect takes place as in occupancy counts.

To ease the strain of counting throughout the peak period, it may be adequate to limit continuous counting to the peak hour only, and count at ten minute intervals with five minute breaks for the peak period before and after the peak hour.

e. Arterial Speeds The monitoring of arterial speeds was done at the request of the Department of Environmental Quality for use in analyzing air quality. It does not serve a purpose in monitoring traffic flow on the Banfield as the speeds on arterial streets are determined primarily by signal timings rather than traffic volumes.

f. Arterial Volumes Counting is done by automatic counters and data received is considered to be very accurate.

10.2 Air Quality

It was felt that the lack of background data prior to the opening of the HOV lanes significantly limited the evaluation of air quality data collected during the study period. The components of the air monitoring program are discussed individually.

a. Carbon Monoxide Sampling

The sequential bag sampling equipment did not perform to expectations during the first year of operation. Problems included ~~leaky~~ leaking in pumps, sampling bags, and hose connections. Major retrofitting was required before adequate sampling was gained. A problem in calibrating the Ecolyzer was also encountered when using SPAN gas registered at 50 ppm. Readings at lower ppm levels were found to be inaccurate. A 10 ppm SPAN gas was substituted with satisfactory results.

The Department of Environmental Quality suggested that the hours of sampling be modified to include suspected high levels of pollution in the late PM hours. The program started out by monitoring from 6:00 AM to 6:00 PM but was adjusted to monitor from 12:00 noon to 12:00 midnight. The DEQ also supplemented the Banfield monitoring program with their own permanent sampling sites at 47th and Sandy Blvd. and in the vicinity of 19th and Multnomah Streets.

b. Nitrogen Oxide Sampling

During the second year, an environmental test trailer was obtained to test oxides of nitrogen (NO, NOx) and Ozone. It was located at 19th and Multnomah Street site and started monitoring in August 1976. The testing has continued throughout the remainder of the monitoring program. The system has performed satisfactorily.

c. Lead Particulate Sampling

Lead particulate ~~samplings~~ samples were obtained by the use of a high volume sampler located at 19th and Multnomah Streets. No major problems were associated with the equipment and the sampling equipment has performed satisfactorily.

d. Meteorological Sampling

Meteorological data was obtained by using a portable MRI station located on the roof of a building south of the freeway. Data for the first ten months is suspect due to the inadequate height of the equipment above the roof top. The recording instruments were raised and more accurate readings were subsequently achieved.

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APPENDIX A

PROCEDURES USED FOR MONITORING
BANFIELD FREEWAY HIGH OCCUPANCY LANES

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APPENDIX A

PROCEDURES USED FOR MONITORING
BANFIELD FREEWAY HIGH OCCUPANCY LANES

TASK A-1 AWT (AVERAGE WEEKDAY TRAFFIC VOLUME TOTALS) FOR THE BANFIELD FREEWAY, THE BANFIELD FREEWAY RAMPS, AND THE MAJOR EAST-WEST ARTERIAL STREETS WITHIN THE BANFIELD CORRIDOR.

1. Purpose

To obtain the AWT for the Banfield Freeway and the AWT for the Banfield Freeway Ramps and the Major Arterial Streets within the Banfield Corridor for correlation with other data gathered under the Banfield Monitoring Program.

2. Time

a. Banfield Freeway AWT Data (two counter units)

(1) Recording of data is a continuous operation using a permanently installed Street-Amet counter.

(2) The type of equipment used requires checking by a trained technician on Wednesday and Friday of each week.

(3) Every Friday the recorded data for the previous week must be removed from the seven-day counter units for submission to Salem.

b. Banfield Freeway Ramp AWT Data (eighteen counter units)

(1) Recording data is performed during one nine-day period each month. Starting the Friday before the first or second full week of a month and continuing through the week to the Monday following the first or second full week. The week is picked on the basis of holidays, workload of the technician, etc. Weeks with holidays should be avoided.

(2) The type of equipment used requires that the technician checks the equipment each weekday during this operation.

(3) Every weekday during the week of operation the technician shall collect the recorded data from each counter.

c. Major East-West Arterial Streets AWT Data (eighteen counters).

(1) Recording of data is performed during one nine-day period each month. Starting on the Friday before the third or fourth full week of a month and continuing through the week to the Monday following the third or fourth full week. The week picked is based on holidays, workload of the technician, lack of conflict with data gathering in item b. above, etc. Weeks should be avoided that have holidays in them.

(2) The type of equipment used requires that the technician checks the equipment during each weekday during this operation.

(3) Every weekday during the week of operation the technician shall collect the recorded data from each counter.

3. PLACE

a. Banfield Freeway (NOTE: 7 lanes require 2 counters and 7 loop detectors, 3 eastbound and 4 westbound).

(1) Eastbound at N. E. 21st Ave. at the permanent counter location with the recording equipment located under the southeast corner of the 21st Ave. structure.

(2) Westbound at 21st Ave. at the permanent counter location with the recording equipment located under the southeast corner of the 21st Ave. structure.

b. Banfield Freeway Ramps (NOTE: 17 off-ramps require 18 counters and loop detectors due to two lanes on the Holiday St. off-ramp westbound).

(1) Eastbound Ramps Count (11 locations).

(a) 3rd Ave. on-ramp

(b) Grand Ave. on-ramp

(c) 16th Ave. on-ramp

(d) 33rd Ave. off-ramp

(e) 39th Ave. off-ramp southbound

(f) 39th Ave. off-ramp northbound

(g) 39th Ave. on-ramp

(h) 57th Ave. off-ramp

(i) 60th Ave. on ramp

(j) 68th Ave. off-ramp

(k) 82nd Ave. off-ramp

(2) Westbound Ramp Counts (6 locations).

(a) 82nd Ave. on ramp

(b) 58th Ave. on ramp

(c) 42nd Ave. off-ramp

(d) 37th Ave. on-ramp

(e) 33rd Ave. on-ramp

(f) Holiday off-ramp (two lanes counted)

c. Major East-West Arterial Streets

(1) Eastbound (NOTE: 8 lanes require 8 counters).

(a) Burnside at 21st - 2 lanes

(b) N.E. Sandy Blvd. at 21st - 2 lanes

(c) N.E. Sandy Blvd. at 41st - 2 lanes

(d) N.E. Weidler at 21st - 2 lanes

(2) Westbound (NOTE: 11 lanes require 11 counters).

(a) Burnside at 21st - 2 lanes

(b) N.E. Sandy Blvd. at 21st - 3 lanes

(c) N. E. Sandy Blvd. at 41st - 2 lanes

(d) N.E. Broadway at 21st - 4 lanes

4. Equipment Required

a. Recording Equipment for the Banfield Freeway.

(1) Two permanent traffic counters with seven loop detectors amplifiers each with a permanent lane loop. Street-Amet Equipment.

(2) Rolls of recorder tape to be used in the counters.

(3) This unit is powered by 110 volt service at the location. No batteries are required.

b. Recording equipment for the Banfield Freeway Ramps.

(1) Eighteen portable traffic counters each with a loop detector amplifier. Street-Amet Model MR Equipment.

(2) Eighteen permanent lane loops that are installed in the roadway pavement.

(3) Rolls of recorder tapes.

(4) Eighteen Gates rechargeable dry cell batteries.

NOTE: Extra counters, tapes, and batteries should always be carried by the technician.

c. Recording Equipment for the Major East-West Arterial Streets.

(1) Nineteen portable traffic counters each with a loop detector amplifier. Street-Amet Model MR Equipment.

(2) Nineteen permanent lane loops that are installed in the roadway pavement.

(3) Rolls of recorder tapes.

(4) Eighteen Gates rechargeable dry cell batteries.

NOTE: Extra counters, tapes, and batteries should always be carried by the technician.

d. One vehicle for installation, servicing, and picking up units. As a minimum the vehicle should be of the ½-Ton Carryall variety. A 1-Ton Van is generally preferred by the technicians.

e. Battery charger is located at the Traffic Technician's office.

f. Forms for recording hour totals by the day titled "Automatic Recorder Traffic Data by Day and Hour". Figure A-1

g. Miscellaneous pens, pencils, and hand tools.

h. Keys for entry to recorders, etc.

5. Personnel Required

One trained technician is required as a minimum additional help may be required from time to time.

6. Procedure

a. Banfield Freeway.

(1) The permanent recorder is located just under the Southeast corner of the 21st Ave. structure. Best access is from 21st Ave. around the Southeast corner of the bent.

(2) The technician using key unlocks the cabinet and opens door to expose the counters and the loop amplifiers.

(3) Check all loop amplifiers to see that they are tuned correctly.

(a) If the amplifier is not working, record the direction and

FIGURE A-1

OREGON STATE HIGHWAY DEPARTMENT
Metropolitan Section

AUTOMATIC RECORDER TRAFFIC DATA BY DAY AND HOUR

Street_____ Station_____ Direction__
Location_____ Year_____

Day of Week / Date (Month & Day)		Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
Hour of Day								
A.M.	12-1							
	1-2							
	2-3							
	3-4							
	4-5							
	5-6							
	6-7							
	7:00-7:15							
	7:15-7:30							
	7:30-7:45							
	7:45-8:00							
	8:00-8:15							
	8:15-8:30							
	8:30-8:45							
	8:45-9:00							
	9-10							
	10-11							
	11-12							
P.M.	12-1							
	1-2							
	2-3							
	3-4							
	4:00-4:15							
	4:15-4:30							
	4:30-4:45							
	4:45-5:00							
	5:00-5:15							
	5:15-5:30							
	5:30-5:45							
	5:45-6:00							
	6-7							
	7-8							
	8-9							
	9-10							
	10-11							
	11-12							
Total for 24 hrs								
24 hr adjusted								

lane involved.

(b) Adjust unit with the tuning knob until it is adjusted to detect vehicles correctly.

(c) If the unit fails to work even after adjustment, replace with spare unit and return bad unit to Salem Shops for repair.

(4) Check counter units and recording tape rolls.

(a) Place new rolls of recorder tape in the units when roll appears too small to last until the next scheduled visit. This is to be done on Wednesday only.

(b) On Friday check and remove used part of recorder tape for submission to the Traffic Engineer, Salem, Oregon.

1) NOTE: All of these recorder tapes are sent weekly to the TRAFFIC ENGINEER, Salem, Oregon, where they are encoded and the information is stored in the computer.

2) Salem computes monthly AWT from ADT information and returns computer readout to Bill McConnel at Metro.

(c) Have all malfunctions of equipment repaired or corrected immediately.

(5) After final check and retrieval of tapes (as required) are completed, make sure that the equipment cabinet is closed and locked.

(6) Make sure to return all equipment and used tapes to the vehicle.

(7) Continue normal routine.

b. Banfield Freeway Ramps (NOTE: Permanent loops have been installed on each ON and OFF ramp with feed wires run to a location for setting up portable counters.)

(1) During the week preceding recording data the technician must make sure that all equipment is working and batteries are charged and ready to go by Friday.

(2) On the Friday preceding the week data is to be taken, the technician will install and start all of the portable counters required using the following procedure.

(a) Connect portable unit to the loop wires at each location.

(b) Turn on the unit and allow the loop amplifier time to warm up before adjusting fine tuner.

(c) Adjust the loop amplifiers so that it is detecting vehicles passing over the loops.

(d) Make sure the counter is working, roll or recorder tape is correctly installed, and the time of day setting is correct.

(e) Make sure unit is secured and locked before proceeding to next location.

(f) Continue the above procedure at all of the eighteen units required.

NOTE: If any unit fails to work correctly, replace it with spare unit. Return bad unit for repairs.

(3) The technician must check each of the counter units once a day Monday through Friday during the week data is taken. The following general procedure will be followed for each counter location.

(a) Unlock the counter unit.

(b) Check loop amplifier unit, adjust if necessary.

(c) Check battery, replace if necessary.

(d) Remove printed portion of tape marking it with the date, time, location, etc., for identification.

(e) Replace tape roll, if required.

(f) After all checking is completed, make sure unit is secure and locked before proceeding to next loaction.

(g) Continue the above procedure for all eighteen units.

NOTE: If any unit fails to work after adjustment is tried, replace with spare unit. Return bad unit for repairs.

(4) On the Monday following the test week, the technician must shut off and retrieve all of the portable counters and equipment. The following general procedure will be followed for each counter location.

(a) Unlock the counter unit.

(b) Check loop amplifier to see that it is still working.

(c) Remove the printed portion of the tape and mark it with the date, time, location, etc., for identification.

(d) Turn off unit and disconnect loop feed wires.

(e) Return all portable equipment to vehicle for return to office.

(f) The exception to the above operation is that if the recorder failed to operate for any period of time at any one location, the recorder would continue working through the same period of time.

Example: If the recorder failed to work from Tuesday's check to Wednesday's check, the recorder would be maintained through Wednesday.

(5) Each day that counter roll tapes are collected, the following procedure shall be followed:

(a) Upon return to the office each day the technician shall encode all counter roll tapes hourly totals onto Weekly Data Sheets titled "Automatic Recorder Traffic Data by Day and Hour". Use one form for each OFF or ON ramp as follows. (Figure A-1)

1) Fill out heading as required on the form.

2) Date the columns using only the Monday through Friday columns as per the recorder tape dates.

3) Enter the hourly totals matching the hour on the form with those on the recorder tapes.

4) Continue this operation each weekday until the form is completed with hourly totals for each weekday. Note: Equipment failures may require that hourly totals for weekday be taken from a two-week period. If Tuesday and Wednesday are lost during the first week, then Tuesday and Wednesday of the following week would be used to replace them.

5) Multiple lanes (2 or more recorders on one ramp) must be added when entering on forms.

(b) When the forms are completed for all the OFF and ON ramps, do the following.

1) Store all recorders tapes used for encoding forms for a period of 30 days minimum after the work is done.

2) Make copies of all weekdly forms (5.a. above) and file original copies for future record.

3) Figure A-2 is a monthly summary form of Figure A-1.

4) Send original/copies of the weekly forms to William McConnel, Oregon State HIghway Division, 5821 N.E. Glisan St. Portland, Oregon 97213.

c. Major East-West Arterial Streets

AWT Data is obtained by following the same procedure as used for the Banfield Freeway Ramps, procedures b. on previous sheets. Figure A-3 is a monthly summary form for the AWT Data.

FREEWAY RAMPS WEEKDAY TRAFFIC

EASTBOUND	
3rd AVE ON	
GRAND AVE ON	
16th AVE ON	
33rd AVE OFF	
39th AVE OFF SOUTH	
39th AVE OFF NORTH	
41st AVE ON	
57th AVE OFF	
60th AVE ON	
68th AVE OFF	
82nd AVE OFF	
WESTBOUND	
82nd AVE ON	
58th AVE ON	
42nd AVE OFF	
37th AVE ON	
33rd AVE ON	
HOLLIDAY ST OFF	

FIGURE A-2

CITY STREETS WEEKDAY TRAFFIC

EASTBOUND
BURNSIDE at 21st
SANDY BLVD at 21st
SANDY BLVD at 41st
WEIDLER at 21st
WESTBOUND
BURNSIDE at 21st
SANDY BLVD at 21st
SANDY BLVD at 41st
BROADWAY at 21st

FIGURE A-3

TASK A-2 VEHICLES PER LANE COUNT

1. Purpose

To gather data for determining the number of vehicles using each lane, the volumes for ½-hour periods for peak period determination, and volumes of truck and bus traffic, excluding Tri-Met buses, which are using the Banfield Freeway during peak hours.

2. Time

The lane counts are performed on Tuesday, Wednesday, and Thursday during the fourth full week of each month. The westbound lane counts are taken from 6:00 to 9:00 A.M. and the eastbound lane counts are taken from 3:30 to 6:30 P.M.

3. Place

The vehicle lane counts are to be observed from the 47th Ave. undercrossing structure.

4. Equipment needed for Vehicle Lane Counts

a. One vehicle for transportation to and from the counting location at 47th Ave. undercrossing structure.

b. Two four-button traffic counter boards.

c. Pencils and/or pens.

d. Wrist watch, pocket watch, or clock in good working order and set to the correct time of day.

e. Proper forms as listed below.

(1) 47th Ave. undercrossing westbound (6:00 to 9:00 A.M.). (Figure A-4)

(2) 47th Ave. undercrossing eastbound (3:30 to 6:30 P.M.). (Figure A-5)

5. Personnel required for the Vehicle Lane Counts

Two persons are required as follows:

a. One person to count the vehicles in the HOV Lane and the Center Lane (excluding Tri-Met buses).

b. One person to count the vehicles in the Right Lane and/or Right Lanes (excluding Tri-Met buses).

BANFIELD FREEWAY VEHICLE LANE COUNT

DATE_____ WEATHER_____ CREW_____

47th Avenue Under-Xing Westbound	(Start) TIME	(End) TIME	Right Lane	Center Lane	HOV Lane	COMMENTS
	6:00am	6:30am				
	6:30	7:00				
	7:00	7:30				
	7:30	8:00				
	8:00	8:30				
	8:30	9:00				
	9:00	9:30				
TOTAL						

FIGURE A-4

BANFIELD FREEWAY VEHICLE LANE COUNT

DATE_____ WEATHER _____ CREW_____

47th Avenue Under-Xing Eastbound	(Start) TIME	(End) TIME	Right Lane	Center Lane	HOV Lane	COMMENTS
	3:30pm	4:00pm				
	4:00	4:30				
	4:30	5:00				
	5:00	5:30				
	5:30	6:00				
	6:00	6:30				
TOTAL						

FIGURE A-5

6. Procedure

a. Both persons who are making the vehicle counts should drive in one vehicle to the designated observation point with all required equipment. Arrival should be timed to allow a minimum of five minutes before starting time for final set-up.

b. The person making the vehicle count for the right lane does the following:

(1) Using one of the counting boards and starting at the designated starting time, the person does the following:

(a) Counts all vehicles, excluding Tri-Met buses, by depressing a button on the counter board using one column button on the board per land.

(b) Counts all trucks, e.g. semi-trucks, dump trucks, delivery trucks, school buses, Greyhound buses, etc., but still excluding Tri-Met buses, by depressing the button on the counter using the second column button (one button per lane).

NOTE: One lane requires two buttons, two lanes requires four buttons, etc.

(2) Every ½ hour the person records by lane the running totals for b. 1. aobve using two separate record sheets for Items b. (1) (a) (two record sheets for each lane.

(3) Continue the count for the entire three hour period and record the ½ hour running total as described in b. (1) (a) and b. (1) (b) above.

c. The person making the vehicle count for the HOV lane and center lane does the same as the counter for the right lane. As per Note above, b. (1) (b), this requires four column buttons and four record sheets for running totals.

d. Remember to exclude Tri-Met buses from all counts.

e. Under comments note any observed conditions that may change counts, e.g. accidents, breakdowns, traffic backing up, coming to a stop, etc. Use correct time period on record sheet regarding notes and/or show time of observation if more entry room is required.

f. Cease vehicle count at the designated time. Make sure all entries on the record sheet are made.

TASK A-2 (Office Supplement) PEAK HOUR VEHICLE LANE COUNTS AT 47TH

1. Purpose

To obtain in usable form the Peak Hour Vehicle Lane Count from the Vehicle Lane Count Sheets that are taken each month for the Banfield Monitoring Program.

2. Time

Processing of the Vehicle Lane Counts will be made as soon after the collection of the data as permitted by the testing schedule and after the Vehicle Occupancy Rates have been calculated and entered on the Current Banfield Freeway Traffic Study Summary Sheet.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N.E. Glisan St., Portland, Oregon.

4. Equipment Required

a. The Banfield Freeway Vehicle Lane Count Sheets

b. Adding machine, calculator, or etc.

c. Pencil and/or pen

d. Current Banfield Freeway Traffic Study Summary Sheet

5. Procedure

Determination of the Average Number of Vehicles using the Banfield Freeway during the peak hours (7-8 A.M. Westbound and 4:30-5:30 P.M. Eastbound)

a. Compare the one-half hour counts and check for:

(1) Accidents

(2) Overt traffic conditions

(3) Adverse weather conditions

(4) Other detrimental conditions

b. If any of the above mentioned are found, that one-half hour count is disregarded as not-representative.

c. Separate the Banfield Freeway Vehicle Lane Counts into A.M. and P.M. groups per month by dates and then find and enter the Peak Hour Count on each sheet by adding the two one-half hour counts during the Peak Period

for the following:

(1) Westbound (7-8 A.M.)

(a) HOV Lane

(b) Center Lane

(c) Right Lane

(2) Eastbound (4:30-5:30 P.M.)

(a) HOV Lane

(b) Center Lane

(c) Right Lane

d. Find the Average Peak Hour Lane Count for each individual lane c.(1) (a) thru (c) and c.(2) (a) thru (c) by adding all of the daily Peak Hour totals per lane and dividing by the number of daily totals added together.

e. Enter the Average Peak Hour Lane Counts under d. above on the Current Banfield Freeway Traffic Study Report Summary Sheet as follows:

(1) Peak Hour Lane Counts at 47th Westbound

(a) HOV Lane

(b) HOV Lane carpools (found by using Task A-11)

(c) Center Lane

(d) Right Lane

(e) Total (found by adding the Peak Hour Counts for the HOV Lane, and Right Lane)

(2) Peak Hour Lane Counts at 47th Eastbound

Repeat part e. (1) (a) thru (d) using Eastbound instead of Westbound

TASK A-3 ARTERIAL PEAK HOUR VOLUME DETERMINATION

1. Purpose

To determine the volume of peak hour traffic on arterial streets.

2. Time

Once near the end of each month and after the Automatic Recorder Traffic Data for Arterial Streets is received from the Metro Traffic Engineer's office for the current month.

3. Place

In the office of William McConnel at the Oregon State Highway Division located at 5821 N.E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Adding Machine, Calculator, etc.

b. Pencils, pens, etc.

c. Form titled "City Streets Weekday Traffic" for the summary of data.

d. Automatic Recorder Traffic Data forms for all the arterial streets as follows:

(1) Eastbound

(a) Burnside at 21st

(b) Sandy Blvd. at 21st

(c) Sandy Blvd. at 41st

(d) Weidler at 21st

(2) Westbound

(a) Burnside at 21st

(b) Sandy Blvd. at 21st

(c) Sandy Blvd. at 41st

(d) Broadway at 21st

5. Personnel Required

One person only.

6. Procedure

a. Peak hour weekday volumes on arterial streets westbound are obtained by using the hourly total from 7:00 to 8:00 A.M. from the Automatic Recorder Traffic Data Sheets as listed under Equipment Part d. (2) (a) thru

(d).

(1) Find the average weekday peak hour volumes for each of the listed westbound Arterial Streets by doing the following:

(a) Outline all the daily entries for 7:00 to 8:00 A.M. on the form (normally five days, Monday through Friday).

(b) For each form, add all the daily entries for the peak hour (7:00 to 8:00 A.M.) and divide by the actual number of weekdays added together. This is the average Weekday Volume per hour on the Arterial Street.

(c) On the form, enter the Average Weekday Volume in the Sunday column approximately opposite the hours.

(2) Also enter all the required Peak Hour Volumes under the correct month column on the "Banfield Freeway Traffic Study" Report.

b. Peak hour weekday volumes on arterial streets eastbound are obtained by using the hourly total from 4:30 to 5:30 P.M. from Automatic Recorder Traffic Data sheets as listed above under Equipment Part d. (a) thru (d).

(1) Since the hourly totals recorded are for full hours, to find the average weekday peak hour volume eastbound, the average of two hours (4:00 to 5:00 P.M. and 5:00 to 6:00 P.M.) will be used for the period of 4:30 to 5:30 P.M.

(a) Outline all the daily entries for 4:00 to 5:00 P.M. on the form (normally five days, Monday through Friday).

(b) For each form, add all the daily entries for the two peak hours for each day and divide by the actual number of weekday totals used (should be two times the number of weekdays). This will give the average weekday volume per hour on the arterial street.

(c) On the form, enter the average weekday volume in the Sunday column approximately opposite the hours.

(2) Also, enter all the required Peak Hour Volumes under the correct month column on the "Banfield Freeway Traffic Study" report.

TASK A-4 BANFIELD FREEWAY OCCUPANCY COUNTS

1. Purpose

To determine how many vehicles carry one, two, or more than two persons for the purpose of determining the changes in usage of the Banfield Freeway by the traveling public, effectiveness of the HOV Lane, and other related items.

2. Time

The occupancy counts are to be taken between the hours of 6:00 or daylight and 9:00 A.M. westbound and 3:30 and 6:30 or darkness P.M. eastbound on Tuesday, Wednesday, and Thursday of the second full week of the month. Occupancy counts should not be performed for more than three hours per session.

3. Place

The occupancy counts shall be taken from the 47th Ave. structure.

4. Equipment needed for Occupancy Counts

a. One vehicle for transportation to and from the observation point.

b. Two four-column traffic counter boards.

c. One stop watch in good working order.

d. One wrist watch, pocket watch, or clock in good working order and set to the correct time of day.

e. Pencils and/or pens.

f. Proper forms for occupancy counts as listed below:

(1) Banfield Freeway Occupancy Counts Westbound A.M. Times (two sheets). Figure A-6

(2) Banfield Freeway Occupancy Counts Eastbound P.M. Times (two sheets). Figure A-7

5. Personnel required for Occupancy Counts

a. Two persons are required for the operation as follows:

(1) First person for the center and right lane (both westbound and eastbound).

(2) Second person for the HOV Lane (both westbound and eastbound).

b. Generally, the first person is in charge of the crew. One must be a licensed operator for driving vehicle to and from counting site.

6. Procedure to be followed for making Occupancy Counts

a. Plan arrival time at the observation point to allow five minutes for safely parking the vehicle and setting up before official starting time.

b. Both people set up in the peak traffic direction with each one using four column traffic counter board. The second person also operates the stop watch and keeps track of the time of day.

BANFIELD FREEWAY OCCUPANCY COUNTS

47th St. Under-Xing	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupants	Direction
Date_____	6:03am	6:08am				EAST
Weather_____	6:10	6:20				WEST
Crew_____	6:22	6:27				EAST
Pavement_____	6:29	6:39				WEST
	6:41	6:46				EAST
	6:48	6:58				WEST
	7:00	7:05				EAST
	7:07	7:17				WEST
	7:19	7:24				EAST
	7:26	7:36				WEST
	7:38	7;43				EAST
	7:45	7:55				WEST
	7:57	8:02				EAST
	8:04	8:14				WEST
	8:16	8:21				EAST

FIGURE A-6

BANFIELD FREEWAY OCCUPANCY COUNTS cont'

	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date_____	8:23am	8:33am				WEST
Weather_____	8:35	8:40				EAST
Pavement_____	8:42	8:52				WEST
	8:54	8:59				EAST
WESTBOUND						
EASTBOUND						
WESTBOUND ONLY 7-8:00am						
TOTAL						

FIGURE A-6 cont'

BANFIELD FREEWAY OCCUPANCY COUNTS

47th St. Under-Xing	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date_____	3:33pm	3:38pm				WEST
Weather_____	3:40	3:50				EAST
Crew_____	3:52	3:57				WEST
Pavement_____	3:59	4:09				EAST
	4:11	4:16				WEST
	4:18	4:28				EAST
	4:30	4:35				WEST
	4:37	4:47				EAST
	4:49	4:54				WEST
	4:56	5:06				EAST
	5:08	5:13				WEST
	5:15	5:25				EAST
	5:27	5:32				WEST
	5:34	5:44				EAST
	5:46	5:51				WEST
	5:53	6:03				EAST

FIGURE A-7

BANFIELD FREEWAY OCCUPANCY COUNTS cont'

	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date_____	6:05pm	6:10pm				WEST
Weather_____	6:12	6:22				EAST
Pavement_____	6:24	6:29				WEST
WESTBOUND ONLY						
EASTBOUND ONLY						
EASTBOUND ONLY 4:30-5:30						
TOTAL						

FIGURE A-7 cont.

c. Starting with the peak direction traffic, at the correct starting time as listed below, the stop watch is started by the second person and simultaneously both people start counting occupants per vehicle and recording the vehicle according to the number of occupants by depressing counter buttons one time as follows:

(1) For one occupant, push the button once in column number 1 on the board.

(2) For two occupants, push the button once in column number 2 on the board.

(3) For three or more occupants, push the button once in column number 3 on the board.

d. After 10 minutes has passed on the stop watch the count in the peak direction is stopped and all totals are recorded in the proper columns on the required form.

e. During the next two minute period on the stop watch the two counters are to complete entries as noted above and reposition themselves for counting occupants in the non-peak direction. Make sure that the traffic counter boards are set back to zero.

f. Count of occupants in non-peak direction is conducted for five minutes using the same procedure as for peak direction.

g. Continue rotation of counts between peak and non-peak direction as per times shown on the forms. Time allowed shall always favor the peak traffic direction during the peak hour.

h. Both counters are to conclude the count at the designated time, complete records, and return to office. REMEMBER ALWAYS DRIVE AND PARK SAFELY.

i. P.M. count is conducted in the same order as the A.M. count, remember to follow dictated times as per forms.

j. NOTE: If due to short crew, one man only, the count can be performed as follows:

(1) When one person is counting without an assistant, use the counting machine with two separate sets of push button counter boards (six column minimum) or two separate four column traffic counter boards.

(2) Use one set of buttons for the right and center lanes, and the other set of buttons for the HOV Lane. The same as required for two counters.

(3) Stop watch is still to be used, but exact 10 and 5 minute cycles do not have to be followed, however the times shall be recorded both starting and stopping if different on the form, and the actual time elapsed on the stop

watch is to be recorded as accurately as possible for the time count was made. This allows a correction factor for adjusting totals to equal 10 and 5 minute periods.

TASK A-4 (Office Supplement No.1) BANFIELD FREEWAY PEAK HOUR VEHICLE OCCUPANCY COUNTS PROCESSING

1. Purpose

To obtain in usable form the needed data for Vehicle Occupancy Rates from the raw data collected for the Banfield Monitoring Program.

2. Time

Processing of the Vehicle Occupancy Counts for the Vehicle Occupancy Rate will be made as soon after the collection of the data as permitted by the testing schedule.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan Street, Portland, Oregon.

4. Equipment Required

a. The Banfield Freeway Vehicle Occupancy Count Sheets

b. Adding machine, calculator, etc.

c. Pencils and/or pens

d. The Current Banfield Freeway Traffic Study Report Summary Sheet.

5. Procedure

a. Determine the average number of one, two, and three-or-more Occupant Vehicles using the HOV Lanes and the non-HOV Lanes of the Banfield Freeway during peak rush hours.

(1) Look through the filled out count sheets for any problems that are noted and/or made by the original recorder in the comments column.

(2) If any severe problems have occurred during any of the counting periods, the period is not used.

(3) On each sheet using the three 10-minute periods of counting during the Peak Hours (7-8 A.M. & 4:30-5:30 P.M.); total the number of one, two, and three-or-more occupant vehicles and multiply by two to bring them to a full hour count and record on the daily sheets.

(4) Separate the vehicle occupancy count sheets by westbound A.M. and eastbound P.M. time periods.

(5) Find the average number per Peak Hour of One, Two, and Three or more Occupant Vehicles per HOV Lane and non-HOV Lane by averaging the three day count periods.

b. Determine Peak Hour Occupancy Rates for Westbound (A.M.) using Westbound (A.M.) Occupancy Count Sheets as follows:

(1) Find the Peak Hour Occupancy Rate of people using the HOV Lane by summing the average Peak Hour Totals of One Occupant Vehicles times one plus Two-Occupant Vehicles times two plus three-or-more Occupant Vehicles times three divided by the total number of vehicles recorded in the HOV Lane.

(2) Find the Peak Hour Occupancy Rate of people using the non-HOV Lanes by summing the average Peak Hour Totals of One Occupant Vehicles times one plus Two Occupant Vehicles times two plus Three-or-more Occupant Vehicles times three divided by the total number of vehicles recorded in the non-HOV Lanes.

(3) Find the Peak Hour Occupancy Rate of all people using the Westbound lanes by summing the average Peak Hour Totals of One Occupant Vehicles times one plus Two Occupant Vehicles times two plus Three-or-more Occupant Vehicles times three divided by the total number of vehicles recorded in both the HOV and non-HOV Lanes.

c. Determine Peak Hour Occupancy Rates for Eastbound (P.M.) by following the procedure b. (1) thru b. (3) using Eastbound (P.M.) Occupancy Count Sheets.

TASK A-4 (Office Supplement No. 2) BANFIELD FREEWAY PEAK HOUR PERSON PER LANE

1. Purpose

To obtain the Peak Hour Person per Lane from the raw data collected for the Banfield Monitoring Program.

2. Time

Processing of the Peak Hour Person Per Lane total will be made as soon after the collection of the data as permitted by the testing schedule and after current peak hour occupancy rate and peak hour lane counts at 47th have been completed and added to the Current Banfield Freeway Traffic Study Report Summary Sheet.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. The current Banfield Freeway Traffic Study Report Summary Sheet.

b. Adding machine, calculator, or etc.

c. Pencil and/or pen.

5. Procedure

a. Computation of Peak Hour Person Per Lane, Westbound (7-8 A.M.)

(1) HOV Lane Transit Persons

(a) This is the total number of patrons riding the Tri-Met buses, both regular and Flyer buses, in the HOV Lane. This information is furnished by Tri-Met.

(b) Enter this data for HOV Lane Transit, Westbound, on the Banfield Freeway Traffic Study Report Summary Sheet.

(2) HOV Lane Carpool Persons.

(a) Multiply HOV Lane Carpools Westbound from the Peak Hour Vehicle Lane Count at 47th by three.

(b Enter this for HOV Lane Carpool Persons Westbound on the Banfield Freeway Traffic Study Report Summary Sheet.

(3) HOV Lane Total Persons - Add together the following:

(a) HOV Lane Transit Persons from a. (1) (a)

(b) HOV Lane Carpool Persons from a. (2) (a)

(4) HOV Lane People Violators, Westbound.

(a) Multiply the Peak Hour Occupancy Rate for the Westbound HOV Lane by the Peak Hour Vehicle Lane Count for the Westbound HOV Lane.

(b) Subtract Peak Hour Person Per Lane for Westbound HOV Lane Carpool persons found in Part a. (2) (a) from the product found above in Part a. (4) (a).

(c) Enter HOV Lane People violators, Westbound, on the Banfield Freeway Traffic Study Report summary sheet.

(5) Center Lane

(a) Multiply Peak Hour Occupancy Rate for Westbound Center and Right Lanes by Peak Hour Vehicle Lane count for Westbound Center Lane.

(b) Enter in Peak Hour Person Per Lane for Westbound Center Lane on the Banfield Freeway Traffic Study Report Summary Sheet.

(6) Right Lane

(a) Multiply Peak Hour Occupancy Rate for Westbound Center and Right Lanes by Peak Hour Vehicle Lane Count for Westbound Right Lane.

(b) Enter in Peak Hour Persons Per Lane for Westbound Right Lane on the Banfield Freeway Traffic Study Report Summary Sheet.

(7) Total Number of Persons Using the Banfield

(a) Add together the following:

1) Westbound HOV Lane Transit Persons a. (1) (a).

2) Westbound HOV Lane Carpool Persons a. (2) (a).

3) Westbound HOV Lane Violators a. (4) (b).

4) Westbound Center Lane a. (5) (a).

5) Westbound Right Lane a. (6) (a).

(b) Enter in Peak Hour persons Per Lane for Westbound Total on the Banfield Freeway Traffic Study Report Summary Sheet.

b. Computation of Peak Hour Persons Per Lane, Eastbound (4:30-5:30 P.M.)

Repeat all of a. (1) thru (7) substituting Eastbound for Westbound in all places.

TASK A-5 SUNSET HIGHWAY OCCUPANCY COUNTS

1. Purpose

To determine how many vehicles carry one, two, or more than two persons for the purpose of comparison with a major East-West highway on occupancy rates during the same time periods.

2. Time

The occupancy counts are to be taken between the hours of 6:00 (or daylight) and 9:00 A.M. eastbound, and 3:30 and 6:30 (or darkness) P.M. westbound on the Monday of the second full week of the month. Occupancy counts should not be performed for more than three hours per session.

3. Place

The occupancy counts shall be taken from the Sunset Highway undercrossing of the ZOO-OMSI structure.

4. Equipment Required

a. One vehicle for transportation to and from the observation point.

b. Two four-column traffic counter boards.

c. One stop watch in good working condition.

d. One wrist watch, pocket watch, or clock in good working order and set to the correct time of day.

e. Pencils and/or pens.

f. Proper forms for occupancy counts as listed below:

(1) Sunset Freeway Occupancy Count Eastbound (two sheets). (Figure A-8)

(2) Sunset Freeway Occupancy Count Westbound (two sheets).(Figure A-9)

5. Personnel Required

a. Two persons are required for this operation as follows:

(1) First person for the center and right lane (both eastbound and westbound).

(2) Second person for the left lane.

b. Generally, the first person is in charge of the crew. One of the persons must be a licensed operator for driving the vehicle to and from the counting site.

6. Procedure

a. Plan arrival time at the observation point to allow at least five minutes for safely parking the vehicle and setting up before official starting time.

b. Both persons set up in the peak traffic direction with each one using a four-column traffic counter board. The second person also operates the stop watch and keeps track of the time of day.

c. Starting with the peak direction traffic, at the correct starting time as listed below, the stop watch is started by the second person and simultaneously persons start counting occupants per vehicle and recording the vehicle according to the number of occupants by depressing counter buttons one time as follows:

(1) For one occupant, push the button once in column number 1 on the board.

(2) For two occupants, push the button once in column number 2 on the board.

(3) For Three or more occupants, push the button once in column number 3 on the board.

SUNSET FREEWAY OCCUPANCY COUNTS

OMSI Undercrossing	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupants	Direction
Date_____	6:03am	6:08				WEST
Weather_____	6:10	6:20				EAST
Crew_____	6:22	6:27				WEST
Pavement_____	6:29	6:39				EAST
	6:41	6:46				WEST
	6:48	6:58				EAST
	7:00	7:05				WEST
	7:07	7:17				EAST
	7:19	7:24				WEST
	7:26	7:36				EAST
	7:38	7:43				WEST
	7:45	7:55				EAST
	7:57	8:02				WEST
	8:04	8:14				EAST
	8:16	8:21				WEST

FIGURE A-8

SUNSET FREEWAY OCCUPANCY COUNTS cont'

	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date_____	8:23am	8:33				EAST
Weather_____	8:35	8:40				WEST
Pavement_____	8:42	8:52				EAST
	8:54	8:59				WEST
WESTBOUND ONLY						
EASTBOUND ONLY						
EASTBOUND ONLY 7:00-8:00am						
TOTAL						

FIGURE A-8 cont'

SUNSET FREEWAY OCCUPANCY COUNTS

OMSI Under-crossing	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupants	Direction
Date_____	3:33pm	3:38pm				EAST
Weather_____	3:40	3:50				WEST
Crew_____	3:52	3:57				EAST
Pavement_____	3:59	4:09				WEST
	4:11	4:16				EAST
	4:18	4:28				WEST
	4:30	4:35				EAST
	4:37	4:47				WEST
	4:49	4:54				EAST
	4:56	5:06				WEST
	5:08	5:13				EAST
	5:15	5:25				WEST
	5:27	5:32				EAST
	5:34	5:44				WEST
	5:46	5:51				EAST

FIGURE A-9

SUNSET FREEWAY OCCUPANCY COUNTS cont'

	(Start) TIME	(End) TIME	One Occupant	Two Occupant	Three + Occupant	Direction
Date _____	5:53	6:03				WEST
Weather_____	6:05	6:10				EAST
Pavement_____	6:12	6:22				WEST
	6:24	6:29				EAST
WESTBOUND ONLY						
EASTBOUND ONLY						
WESTBOUND ONLY 4:30-5:30						

SPECIAL NOTE***THE MINNESOTA FREEWAY IS COUNTED ON FRIDAY FROM THE AINSWORTH STREET OVERPASS. USE THE SUNSET FREEWAY FORMS BUT SUBSTITUTE MINNESOTA FREEWAY FOR SUNSET FREEWAY. THE SAME IS DONE WITH THE PROCESSING EXCEPT EXCHANGE NORTH FOR WEST AND SOUTH FOR EAST.

FIGURE A-9 cont'

d. After 10 minutes has passed on the stop watch, the count in the peak direction is stopped and all totals are recorded in the proper columns on the required form.

e. During the next two minute period on the stop watch, the two persons are to complete entries as noted above and reposition themselves for counting occupants in the non-peak direction. Make sure that the traffic counter boards are set back to zero.

f. Count of occupants in non-peak direction is conducted for five minutes using the same procedure as for peak direction.

g. Continue rotation of counts between peak and non-peak direction as per times shown on the forms. Time allowed shall always favor the peak traffic direction during the peak hour.

h. Both persons are to conclude the count at the designated time, complete records and return to office. REMEMBER DRIVE AND PARK SAFELY.

i. P.M. count is conducted in the same order as the A.M. count. Remember to follow dictated times as per forms.

j. NOTE: If due to short crew, one man only, the count can be performed as follows:

(1) When one person is counting without an assistant, use the counting machine with two separate sets of push button counter boards (six column minimum) or two separate four-column traffic counter boards.

(2) Use one set of buttons for the right and center lanes, and the other set of buttons for the HOV Lane. The same as required for two counters.

(3) Stop watch is still to be used, but exact 10 and 5 minute cycles do have to be followed, but the times shall be recorded both starting and stopping if different on the form, and the actual time elapsed on the stop watch is to be recorded as accurately as possible for the time count was made. This allows a correction factor for adjusting totals to equal 10 and 5 minute periods.

TASK A-5 (Office Supplement) SUNSET HIGHWAY PEAK HOUR VEHICLE OCCUPANCY COUNTS PROCESSING

1. Purpose

To determine the percentages and the occupancy rates for vehicles carrying one, two, and three-or-more occupants on the Sunset Highway. This is for the comparison of a major East/West highway with the Banfield Freeway during the Peak Hours.

2. Time

After the completion of the occupancy count, the percentages and rates should be calculated as soon as the work load will permit.

3. Place

William McConnel's office in the Oregon State Highway Division Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Sunset Highway Vehicle Occupancy County Sheets

(1) Eastbound (A.M. Sheets)

(2) Westbound (P.M. Sheets)

b. Adding Machine, Calculator, or etc.

c. Pencil and/or pen

d. Current Banfield Freeway Traffic Study Report Summary Sheet.

5. Procedure

a. Determination of Average number of One, Two, and Three-or-more Occupant Vehicles per Peak Hour.

(1) Eastbound

(a) Separate out the A.M. sheets (Usually two, maybe more).

(b) Check the A.M. sheets' comment column for any problems that may have occurred.

(c) On each A.M. sheet, total the three ten-minute periods during the peak hour (7-8 A.M.) and multiply each by 2 (if two 10-minute periods used, multiply by 3; if one 10-minute period used, multiply by 6 to make them into Full Hour Counts for each of the following:

1) One Occupant Vehicles

2) Two Occupant Vehicles

3) Three-or-more Occupant Vehicles

(d) Make a summary of all the A.M. sheets for:

1) One Occupant Vehicles

2) Two Occupant Vehicles

3) Three-or-more Occupant Vehicles

(e) Using the Full Hour Occupancy Count totals of the A.M. vehicles found in Part a. (1) (d) 1) thru 3), find the total number

of One, Two, and Three-or-more Occupant Vehicles.

(2) Westbound

(a) In Part a. (1) (a) thru (e) substitute the following:

1) "Westbound" for "Eastbound"

2) "P.M." for "A.M."

(b) Perform Part a. (1) (a) thru (2) using the above changes.

b. Determination of Percentage of Peak Hour Vehicle Occupancy

(1) Eastbound

(a) To find the percentage of One Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of One Occupant Vehicles in the A.M. as found in Part a. (1) (d) 1) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part a. (1) (e), and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(b) To find the percentage of Two Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of Two Occupant Vehicles in the A.M. as found in Part a. (1) (d) 2) by the total number of One, Two and Three-or-more Occupant Vehicle, which was found in Part a. (1) (e), and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(c) To find the percentage of Three-or-more Occupant A.M. Vehicles, divide the Full Hour Count by Three-or-more Occupant Vehicles in the A.M. as found in Part a. (1) (d) 3) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part a. (1) (e) and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(d) Enter the percentages found in Part b. (1) (a) thru (c) in the proper place on the current Banfield Freeway Traffic Study Report Summary Sheet.

(2) Westbound

(a) In Part b. (1) (a) thru (d) change A.M. to P.M.

(b) Perform Part b. (1) (a) thru (d) using the above changes.

c. Determination of Occupancy Rates

(1) Eastbound

(a) Find the total number of persons traveling in One Occupant Vehicles in the A.M. by multiplying the sum found in Part a. (1) (d) 1) for the A.M. times factor 1.

(b) Find the total number of persons traveling in Two Occupant Vehicles in the A.M. by Multiplying the sum found in Part a. (1) (d) 3) times factor 2.

(c) Find the total number of persons traveling in Three-or-more Occupant Vehicles in the A.M. by multiplying the sum found in Part a. (1) (d) 3) times the factor 3.

(d) Find the sum of the products found in Part c. (1) (a) thru (c).

(e) Divide the sum found in Part c. (1) (d) by the sum found in Part a. (1) (e). Enter answer on the current Banfield Traffic Report Summary Sheet.

(2) Westbound

(a) Change A.M. to P.M. in Part c. (1) (a) thru (e).

(b) Perform Part c. (1) (a) thru (e) using the above changes.

TASK A-5 (Office Supplement) SUNSET HIGHWAY PEAK HOUR VEHICLE OCCUPANCY COUNT PROCESSING

1. Purpose

To determine the percentages and the occupancy rates for vehicles carrying one, two, and three-or-more occupants on the Sunset Highway. This is for the comparison of a major East/West Highway with the Banfield Freeway during the Peak Hours.

2. Time

After the completion of the occupancy count, the percentages and rates should be calculated as soon as the work load will permit.

3. Place

William McConnel's office in the Oregon State Highway Division Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Sunset Highway Vehicle Occupancy Count Sheets

(1) Eastbound

(a) Separate out the A.M. sheets (Usually two, maybe more).

(b) Check the A.M. sheets' comment column for any problems that may have occurred.

(c) On each A.M. sheet, total the three ten-minute periods during the Peak Hour (7-8 A.M.) and multiply each by 2 (if two 10-minute

periods used, multiply by 3; if one 10-minute period used, multiply by 6) to make them into Full Hour Counts for each of the following:

1) One Occupant Vehicles

2) Two Occupant Vehicles

3) Three-or-more Occupant Vehicles

(d) Make a summary of all the A.M. Sheets for:

1) One Occupant Vehicles

2) Two Occupant Vehicles

3) Three-or-more Occupant Vehicles

(e) Using the Full Hour Occupancy Count totals of the A.M. Vehicles found in Part a. (1) (d) (1) thru (3), find the total number of One, Two, and Three-or-more Occupant Vehicles.

(2) Westbound

(a) In Part a. (1) (a) thru (e) substitute the following:

1) "Westbound" for "Eastbound"

2) "P.M." for "A.M."

(b) Perform Part a. (1) (a) thru (2) using the above changes.

b. Determination of Percentage of Peak Hour Vehicle Occupancy

(1) Eastbound

(a) To find the percentage of One Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of One Occupant Vehicles in the A.M. as found in Part a. (1) (d) 1) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part a. (1) (e) and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(b) To find the percentage of Two Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of Two Occupant Vehicles in the A.M. as found in Part a. (1) (d) 2) by the total number of One, Two and three-or-more Occupant Vehicle, which was found in Part a. (1) (e), and multiply by 100 for the percentage using the Sunset Highway in the A.M.

(c) To find the percentage of Three-or-more Occupant A.M. Vehicles, divide the Full Hour Count by Three-or-more Occupant Vehicles in the A.M. as found in Part a. (1) (d) 3) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part a. (1) (e) and multiply by 100 for the percentage using the Sunset Highway in the

A.M.

(d) Enter the percentages found in Part b. (1) (a) in the proper place on the current Banfield Freeway Traffic Study Report Summary Sheet.

(2) Westbound

(a) In Part b. (1) (a) thru (d) change A.M. to P.M.

(b) Perform Part b. (1) (a) thru (d) using the above changes.

c. Determination of Occupancy Rates

(1) Eastbound

(a) Find the total number of persons traveling in One Occupant vehicles in the A.M. by multiplying the sum found in Part a. (1) (d) 1) for the A.M. times factor 1.

(b) Find the total number of persons traveling in Two Occupant Vehicles in the A.M. by Multiplying the sum found in Part a. (1) (d) 3) times factor 2.

(c) Find the total number of persons traveling in Three-or-more Occupant Vehicles in the A.M. by multiplying the sum found in Part a. (1) (d) 3) times the factor 3.

(d) Find the sum of the products found in Part c. (1) (a) thru (c).

(e) Divide the sum found in Part c. (1) (d) by the sum found in Part a. (1) (e). Enter answer on the current Banfield Freeway Traffic Report Summary sheet.

(2) Westbound

(a) Change A.M. to P.M. in Part c. (1) (a) thru (e).

(b) Perform Part c. (1) (a) thru (e) using the above changes.

TASK A-6 BANFIELD FREEWAY TIMED RUNS (SPEED CHECK)

1. Purpose

To obtain the required data for computing the average vehicle speed during rush hour in both the restricted (HOV) and unrestricted lanes on the Banfield Freeway.

2. Time

The timed runs are to be taken between the hours of 6:00 and 9:00 A.M. Westbound and the hours of 3:30 and 6:30 P.M. Eastbound. The required data

will be taken on Tuesday, Wednesday, and Thursday, during the third full week of each month.

3. Place

The Banfield Freeway between N. E. Grand Ave. and N. E. 82nd Ave.

4. Equipment needed for Test Runs

a. Two passenger vehicles (preferably sedans). Attempt to use the same vehicle for the timed runs throughout the test cycle. Make sure the vehicle is well maintained.

(1) Vehicle No. 1- 2-person vehicle

(2) Vehicle No. 2 - 3-person vehicle

b. Two stop watches in good working condition.

c. Two wrist watches, pocket watches, or clocks in good running order and correctly set for the time of day. One for each vehicle.

d. Pencils and/or pens for each time keeper.

e. Proper forms for each time keeper.(Figures A-10, A-11)

(1) Banfield Freeway Timed Run Westbound.

(2) Banfield Freeway Timed Run Eastbound.

5. Personnel needed for Test Runs

a. Two drivers, one for each vehicle.

b. Two timer-note keepers, one for each vehicle.

c. A third person is required for the HOV Lane timed runs in Vehicle No. 2.

6. Procedure

a. Both vehicles should arrive at the starting point early. (See appropriate form.)

b. Park at the curb behind the designated starting point.

c. At the correct starting time, vehicle No. 1 is to join and keep up with the flow of traffic in their designated starting lane as listed below in Item e. (1).

d. Vehicle No. 2 is to start their first run about 6 to 8 minutes after vehicle No. 1's starting time. Vehicle No. 2 is to join and keep up with the

FIGURE A-10

BANFIELD FREEWAY TIMED RUN

WESTBOUND

Date_____ Weather_____

Time Started_____AM Surface Condition_____

CHECKPOINT	Clock Reading	Calc. Time	Clac. Speed	COMMENTS
Top of Ramp 82nd Str. MP 0.00	0' 00"			
60th Ave. Str MP 1.246				
47th Ave. Str. MP 1.968				
33rd Ave. Str. MP 2.796				
12th Ave. Str. MP 4.049				
Grand Ave. Str. MP 4.450				
AVERAGE SPEED				

FIGURE A-11

BANFIELD FREEWAY TIMED RUN

EASTBOUND

Date_____ Weather_____

Time Started_____PM Surface Condition_____

CHECKPOINT	Clock Reading	Calc. Time	Calc. Speec	COMMENTS
Grand Ave. Str. MP 0.00	0' 00"			
12th Ave. Str. MP 0.401				
33rd Ave. Str. MP 1.654				
47th Ave. Str. MP 2.482				
60th Ave. Str. MP 3.204				
82nd Ave. Str. MP 4.513				
AVERAGE SPEED				

flow of traffic in their designated starting lane as listed below on Item No. e. (2).

e. Observe the following order in your runs.

(1) Vehicle No. 1 (two persons only).

(a) Starting lane is the right-hand lane.

(b) Next run is to be the center lane.

(c) Repeat steps (a) and (b) throughout designated period.

(2) Vehicle No. 2 (three persons).

(a) Starting lane is the center lane.

(b) Next run use the HOV Lane.

(c) Next run use the right-hand lane.

(d) Repeat steps (a), (b), and (c) throughout the designated period.

(e) Be sure to make at least two runs in the HOV Lane during the rush hour period.

1) 7:00 to 8:00 A.M.

2) 4:30 to 5:30 P.M.

f. The drivers are to keep up with the flow of traffic though he may have to exceed the speed limit.

g. The timers are to start the stop watch at the following beginning check points:

(1) Westbound beginning check point is located at the top of the Halsey Ave. westbound ramp near 82nd Ave.

(2) Eastbound beginning check point is the east edge of the Grand Ave. structure.

h. Record the elapsed time to the intermediate check points. NOTE: The stop watch is to run continuously until the final check point is crossed.

(1) The westbound intermediate check points are as follows:

(a) The center of the 60th Ave. structure concrete bent.

(b) The center of the 47th Ave. structure concrete bent.

(c) The center of the 33rd Ave. structure concrete bent.

(d) The center of the 12th Ave. structure steel bent.

(e) The final check point westbound is a red sight post paddle adjacent to the east side of the Grand Ave. structure.

(2) The eastbound intermediate check points are as follows:

(a) The center of the 12th Ave. structure steel bent.

(b) The center of the 33rd Ave. structure concrete bent.

(c) The center of the 47th Ave. structure concrete bent.

(d) The center of the 60th Ave. structure concrete bent.

(e) The final check point eastbound is the west edge of the 82nd Ave. structure.

i. The time keepers shall record all items that could affect the flow of traffic, e.g. accidents, maintenance operations, stalled vehicles, etc., along with elapsed time (location of problems should be noted with the information).

j. Stop the stop watch at the final check point and complete the test sheet. As soon as possible the time keeper shall prepare the next sheet and the stop watch for the following run.

k. The drivers upon completion of the test run shall return to the starting point and prepare to start the next run. ALLOW AT LEAST 10 MINUTES BETWEEN TEST RUNS.

l. Continue runs by repeating items No. (3) through (11) until the full test period has elapsed.

(1) Vehicle No. 1 follows the lane rotation as listed under Item No. e. (1) (a) through e. (1) (c).

(2) Vehicle No. 2 follows the lane rotation as listed under Item No. e. (2) (a) through e. (2) (e).

TASK A-6 (Office Supplement) BANFIELD FREEWAY TIMED SPEED RUNS PROCESSING

1. Purpose

To convert the Timed Speed Runs field data for the Banfield Freeway into a usable form for the Banfield Monitoring Project.

2. Time

After the completion of each month's timed speed runs on the Banfield

Freeway, the data will be processed as soon as other scheduled activities will allow.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. The Banfield Freeway Timed Speed Run Sheets

(1) Westbound (use A.M. sheets only)

(2) Eastbound (use P.M. sheets only)

b. Adding machine, calculator, or etc.

c. Pencils and/or pens

d. Current Banfield Freeway Traffic Study report summary sheets.

5. Procedure

a. Determination of the Average Speed per run.

(1) Westbound (A.M. sheets only)

(a) Separate the sheets by date

(b) Separate each date into three groups as follows:

1) HOV Lane

2) Center Lane

3) Right Lane

(c) Compute the average M.P.H. for each sheet as follows:

1) Convert the minutes and seconds that the run took into decimals of an hour.

2) Divide the decimal of an hour into the overall distance of the run.

3) Record the average M.P.H. of the run on the bottom of the sheet.

(2) Eastbound (P.M. sheets only)

(a) Follow the procedure set forth in Part a. (1), (a) thru (c).

b. Determination of Peak Hour Average Speeds.

(1) Westbound (A.M. runs only which were previously separated).

(a) HOV Lane Peak Hour Average Speed.

1) Use only those sheets with a starting time within the Peak Hour (7-8 A.M.).

2) Check the comments column for possible causes that could influence the flow of traffic adversely. I.E. Accidents.

3) If the flow has been influenced, that sheet is not to be used.

4) Total the average M.P.H. recorded on the sheets for the Peak Hour (7-8 A.M.).

5) Divide the total of the average M.P.H.'s by the number of averages used.

6) Enter the Average Peak Hour Speed in the proper place on the Banfield Freeway Traffic Study report summary sheets.

(b) Center Lane Peak Hour Average Speed.

1) Follow the procedure set forth in Part b. (1) (a) 1) thru 6).

(c) Right Lane Peak Hour Average Speed.

1) Follow the procedure set forth in Part b. (1) (a) 1) thru 6).

(d) Total (W/O HOV Lane) Peak Hour Average Speed.

1) Add the total of the average M.P.H.'s of the Center Lane to the total of the average M.P.H.'s of the Right Lane.

2) Add the total number of runs used for the Center Lane to the total number of runs used for the Right Lane.

3) Divide the sum found in 1) above by the sum found in 2) above.

4) Enter answer under "Peak Hour Average Speed for Westbound Total (w/o HOV Lane)" on the Banfield Freeway Traffic Study report summary sheets.

(2) Eastbound (P.M. runs only which were previously separated).

(a) Follow the procedure outlined in Part b. (1) (a) thru (d) 3) using Eastbound data (P.M. runs only).

(b) Enter the answer under "Peak Hour Average Speed for Eastbound Freeway Traffic Study report summary sheets.

c. Place all of the Timed Speed Run Sheets in the file titled "Banfield Monitoring-Timed Speed Runs" in the proper date sequence.

TASK A-7 ARTERIAL STREETS TIMED RUNS (SPEED CHECK)

1. Purpose

To obtain the required data for computing the average vehicle speed during rush hours on the arterial streets within the test area.

2. Time

Timed runs will be taken westbound from 6:00 to 9:00 A.M. and eastbound from 3:30 to 6:30 P.M. on Tuesday, Wednesday, and Thursday of the first full week of each month.

3. Place

The arterial streets used for average speed determination within the test area are as follows:

(1) N. E. Broadway Ave./N. E. Weidler-Broadway.

(2) E. Burnside.

(3) N. E. Sandy Blvd.

The average speed for arterials is to be obtained by making timed runs on the above arterial streets simultaneously.

4. Equipment Required for each Street Timed Run

(1) Passenger vehicle (preferably a sedan). Attempt to use the same vehicle for time runs throughout test cycle. Make sure it is well maintained.

(2) Stop watch in good working order.

(3) Wrist watch, pocket watch, or clock in good running condition and correctly set for the time of day.

(4) Pencil and/pen.

(5) Proper forms. Figure A-12, A-13, A-14, A-15, A-16, A-17

FIGURE A-12

N. E. SANDY BLVD. TIMED RUN

WESTBOUND

DATE_____ WEATHER_____

TIME STARTED_____ AM SURFACE CONDITION_____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
47th & SANDY MP 0.00	0' 00"			
42nd & SANDY MP 0.285				
41st & SANDY MP 0.345				
BROADWAY & SANDY MP 0.42				
37th & SANDY (WB) MP 0.57				
33rd & SANDY MP 0.89				
28th & SANDY MP 1.255				
24th & SANDY MP 1.49				
20th & SANDY MP 1.72				
16th & SANDY MP 1.945				
BURNSIDE & SANDY MP 2.155				
AVERAGE SPEED				

FIGURE A-13

N. E. SANDY BLVD. TIMED RUN

EASTBOUND

DATE_____ WEATHER_____

TIME STARTED_____PM SURFACE CONDITION_____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
BURNSIDE & SANDY MP 0.00	0' 00"			
16th & SANDY MP 0.205				
20th & SANDY MP 0.43				
24th & SANDY MP 0.66				
28th & SANDY MP 0.895				
33rd & SANDY MP 1.26				
37th & SANDY (EB) MP 1.555				
BROADWAY & SANDY MP 1.735				
41st & SANDY MP 1.81				
42nd & SANDY MP 1.87				
47th & SANDY MP 2.155				
AVERAGE SPEED				

FIGURE A-14

N.E. BROADWAY TIMED RUN

WESTBOUND

DATE_____ WEATHER_____

TIME STARTED_____ AM SURFACE CONDITION_____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
33rd & BROADWAY MP 0.00	0' 00"			
28th & BROADWAY MP 0.295				
24th & BROADWAY MP 0.511				
21st & BROADWAY MP 0.691				
16th & BROADWAY MP 0.921				
15th & BROADWAY MP 0.970				
12th & BROADWAY MP 1.122				
AVERAGE SPEED				

FIGURE A-15

N.E. BROADWAY TIMED RUN

EASTBOUND

DATE_____ WEATHER_____

TIME STARTED_____ PM SURFACE CONDITION_____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
12th & WEIDLER MP 0.00	0' 00"			
15th & WEIDLER MP 0.152				
16th & WEIDLER MP 0.201				
21st & WEIDLER MP 0.431				
24th & BROADWAY MP 0.656				
28th & BROADWAY MP 0.871				
33rd & BROADWAY MP 1.167				
AVERAGE SPEED				

FIGURE A-16

EAST BURNSIDE TIMED RUN

WESTBOUND

DATE_____ WEATHER_____

TIME STARTED_____ AM SURFACE CONDITION_____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
32nd & BURNSIDE MP 0.00	0' 00"			
28th & BURNSIDE MP 0.27				
24th & BURNSIDE MP 0.47				
20th & BURNSIDE MP 0.67				
16th & BURNSIDE MP 0.87				
SANDY & BURNSIDE MP 1.045				
9th & BURNSIDE MP 1.22				
AVERAGE SPEED				

FIGURE A-17

EAST BURNSIDE TIMED RUN

EASTBOUND

DATE _____ WEATHER _____

TIME STARTED _____ PM SURFACE CONDITIONS _____

CHECKPOINT	CLOCK READING	CALC. TIME	CALC. SPEED	COMMENTS
9th & BURNSIDE MP 0.00	0' 00"			
SANDY & BURNSIDE MP 0.155				
16th & BURNSIDE MP 0.35				
20th & BURNSIDE MP 0.55				
24th & BURNSIDE MP 0.75				
28th & BURNSIDE MP 0.95				
32nd & BURNSIDE MP 1.22				
AVERAGE SPEED				

(a) Arterial No. 1-N. E. Broadway.

1) N. E. Broadway Westbound Speed Check.

2) N. E. Broadway Eastbound Speed Check.

(b) E. Burnside Timed Runs

Westbound	Eastbound
32nd & Burnside	9th & Burnside
28th & Burnside	Sandy & Burnside
24th & Burnside	16th & Burnside
20th & Burnside	20th & Burnside
16th & Burnside	24th & Burnside
Sandy & Burnside	28th & Burnside
9th & Burnside	32nd & Burnside

(c) N. E. Sandy Blvd. Timed Runs

Westbound	Eastbound
47th & Sandy	Burnside & Sandy
42nd & Sandy	16th & Sandy
41st & Sandy	20th & Sandy
Broadway & Sandy	24th & Sandy
37th & Sandy	28th & Sandy
33rd & Sandy	33rd & Sandy
28th & Sandy	37th & Sandy
24th & Sandy	Broadway & Sandy
20th & Sandy	41st & Sandy
16th & Sandy	42nd & Sandy
Burnside & Sandy	47th & Sandy

(6) Under column for comments, note anything that obstructs the flow of traffic, e.g. traffic lights, accidents, maintenance work, etc.

(7) Stop the stop watch at the last control intersection.

(8) Upon completion of test run, complete required data entries and set up next test run sheet and stop watch while the driver is returning to the starting control intersection.

(a) Arterial No. 2-E. Burnside.

1) E. Burnside Timed Run Westbound.

2) E. Burnside Timed Run Eastbound.

(b) Arterial No. 3-N. E. Sandy Blvd.

1) N. E. Sandy Blvd. Timed Run Westbound.

2) N. E. Sandy Blvd. Timed Run Eastbound.

5. Personnel Required for each Arterial Street Timed Run

a. Driver.

b. Timer/note keeper.

6. Procedure

a. Arrive at the starting point early. (See appropriate form)

b. Park at the curb behind the designated starting point and wait until proper starting time.

c. At the correct starting time, join and keep up with the flow of traffic. DO NOT CHANGE LANES AFTER THE TEST RUN HAS STARTED. If more than one lane, use different lanes on following runs.

d. Start the stop watch in the middle of the beginning intersection. (NOTE: Stop watch will run continuously until the end of each test run.)

e. Record the elapsed time on the report sheet as the middle of each control intersection is crossed. The control intersections are as follows:

(1) N. E. Broadway Timed Run

Westbound	Eastbound
33rd & Broadway	12th & Weidler
28th & Broadway	15th & Wediler
24th & Broadway	16th & Weidler
21st & Broadway	21st & Weidler

16th & Broadway	24th & Broadway
15th & Broadway	28th & Broadway
12th & Broadway	33rd & Broadway

(2) Keep repeating steps 3 through 8 of the above until specified time has elapsed. ALLOW AT LEAST 10 MINUTES BETWEEN TEST RUNS.

TASK A-7 (Office Supplement) ARTERIAL STREETS TIMED SPEED RUNS PROCESSING

1. Purpose

To convert the timed speed runs field data for arterial streets into a usable form for correlation with the Banfield Freeway Monitoring Program.

2. Time

After the completion of each month's Timed Speed Runs on the Arterial Streets, the data will be processed as soon as other activities will allow.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N.E. Glisan Street, Portland, Oregon.

4. Equipment Required

a. Arterial Street Timed Speed Runs for:

(1) Westbound

(a) Sandy Boulevard

(b) Burnside

(c) Broadway

(2) Eastbound

(a) Sandy Boulevard

(b) Burnside

(c) Weidler

b. Adding machine, calculator, etc.

c. Pencil and/or pen

5. Procedure

a. Initial Processing of timed speed runs

(1) Westbound

(a) Sandy Boulevard

(b) Burnside

(c) Broadway

(2) Eastbound

(a) Sandy Boulevard

(b) Burnside

(c) Weidler

(3) For each arterial street, separate the sheets by the day and direction as listed in Parts a. (1) and (2).

(4) Calculate the intermediate time for each check point as follows:

(a) Subtract the clock reading of the smallest time from the larger time.

(b) Convert the time from minutes and seconds to decimals of an hour.

(c) Enter the calculated time on the Timed Speed run sheet in the first Calculated Time Column opposite the line dividing the two check points.

(d) Continue repeating steps in Parts a. (4) (a) thru (c) until all intermediate times have been calculated for all sheets.

b. Determination of Average Timed Speed Runs at selected locations.

(1) Method of calculating M.P.H. between two check points.

(a) Pick the calculated time between the two check points.

1) If the check points are one after the other, use the decimal of an hour that was calculated previously.

2) If the check points have one or more check points between them, use the sum of the decimals of an hour of all the calculated times between the check points for which the Average M.P.H. is to be found.

(b) Subtract the smaller mile point from the larger mile point to obtain the distance between the two check points.

(c) Divide the distance in miles by the time in hours to get M.P.H.

(2) Using the method outlined in Part b. (1) (a) thru (c), calculate the M.P.H. for each of the following locations on each sheet:

(a) Westbound (A.M. Sheets)

1) 41st & Sandy Blvd.

2) 21st & Sandy Blvd.

3) Burnside (the complete run)

4) Broadway (the complete run)

(b) Eastbound (P.M. Sheets)

1) 21st & Sandy Blvd.

2) 41st & Sandy Blvd.

3) Burnside (the complete run)

4) Weidler (the complete run)

(3) Record the M.P.H. in the comments section opposite the proper check point.

(4) File the Arterial Timed Speed Runs in their appointed cabinet for future reference.

TASK A-8 ARTERIAL STREET TRUCK COUNTS

1. Purpose

To determine the Relative Average amounts of Truck Traffic on the major Arterial Streets that parallel the Banfield Freeway.

2. Time

The Arterial Truck counts are to be taken between the hours of 6:00 and 9:00 A.M. and 3:30 and 6:30 P.M. on Monday and Fridays during the first three weeks of each month. Only four days are required since counts are taken only one day during the A.M. and P.M. at each listed intersection.

3. Place

The truck counts are to be taken at the following locations:

a. Intersection of 41st Ave. and Sandy Blvd.

b. Intersection of 21st Ave. and Sandy Blvd.

c. Intersection of 21st Ave. and Burnside Street.

d. Intersection of 21st Ave. and Broadway Street. (Westbound)

4. Equipment Required for Arterial Street Truck Counts

a. One vehicle for transportation to and from the count site.

b. One four-column traffic counter board.

c. Pencils and/or pens.

d. Wrist watch, pocket watch, or clock in good working order set to the correct time of day.

e. Proper forms as follows:

(1) Arterial Streets Truck Counts A.M.
Figure A-18

(2) Arterial Streets Truck Counts P.M.
Figure A-19

5. Personnel Required for Arterial Streets Truck Counts

One person only.

6. Procedure

a. The counter person will attempt to make both A.M. and P.M. counts at one intersection during the same day (one day a month).

b. The definition of a truck for this count is as follows:

(1) Trucks are tanker trucks, semi-trucks, dump trucks, delivery trucks, school buses, etc.

(2) Vehicles that are not to be classified as trucks are as follows:

(a) Tri-Met buses

(b) Pickup trucks

(c) Panel trucks

(d) Campers on pickups

(e) Camping trailers

(f) Mobile homes

c. The person will count only the trucks that are following the east

FIGURE A-18

ARTERIAL STREET TRUCK COUNT

Location_____ Date_____

Weather_____

TIME AM	EASTBOUND	WESTBOUND	COMMENTS
6:00-6:30			
6:30-7:00			
7:00-7:30			
7:30-8:00			
8:00-8:30			
8:30-9:00			
TOTALS			

FIGURE A-19

ARTERIAL STREET TRUCK COUNT

Date_____

Location_____

Weather_____

TIME PM	EASTBOUND	WESTBOUND	COMMENTS
3:30-4:00			
4:00-4:30			
4:30-5:00			
5:00-5:30			
5:30-6:00			
6:00-6:30			
TOTALS			

to west to east direction through the intersection.

d. Do not count the trucks that turn before they get to the intersection or cross the east-west travel.

e. The procedure to be followed at each arterial street for counting trucks is as follows for the A.M.:

(1) The counter person drives to and parks in a safe location at the designated intersection. Arrival time should allow a minimum of five minutes to prepare for counting.

(2) The counter person is to start counting at the designated starting time doing the following:

(a) Using two columns on the counter board, the person starts counting all trucks.

1) Westbound column No. 1.

2) Eastbound column No. 2.

(b) After the first 30-minute period, and each following 30-minute period, record the running total in the appropriate location on the form. (NOTE: Under the comments column enter any note that may affect the totals, e. g. accidents, stalled traffic, maintenance work, etc.)

(c) Continue counting until the designated time has elapsed. (3 hours)

(d) Complete all records and return to the office.

(3) Procedure to be followed at each Arterial Street for the P.M. Arterial Street Truck Count is the same as the A.M. count. Follow the procedures (1) and (2) (a) thru (2) (d).

TASK A-9 COLLECTION OF GASOLINE PRICES

1. Purpose

To provide data for correlation between Banfield Flyer bus usage, Carpooling and Non-carpooling users of the Banfield Freeway in relationship to the fluctuation in Gasoline Prices.

2. Time

The collection of the Gasoline Prices is to be performed once a month or if rapid changes in price occur, the time interval may be shortened.

3. Place

a. Gasoline Prices are to be obtained at the following locations:

(1) The Standard Station at N. E. 102nd & Halsey.

(2) The Mobil Station at N. E. 122nd & Glisan.

(3) The Chevron Station at N. E. 181st & Broadway.

(4) The Chevron Station at S. W. Broadway & Columbia.

4. Equipment Required

a. One vehicle in good mechanical condition.

b. One pad for recording the data.

c. Pencil and/or pen.

5. Procedure

a. The Standard Station at N. E. 102nd & Halsey.

(1) Drive to the station in a safe manner and park so that the pumps are not blocked by the vehicle.

(2) On the pad record the name and location of the service station.

(3) If ther is a mini-service island, use the prices at those pumps.

(4) Read the price per gallon for the regular gasoline and record it thusly "Reg. Gas XX.X" on the pad under the station's name and location.

(5) Read the price per gallon of the un-leaded gasoline and record it thusly "Un-leaded XX.X" on the pad under the station's price for regular gasoline.

(6) Read the price per gallon of the premium gasoline and record it thusly "Premium XX.X" on the pad under the station's price for un-leaded gasoline.

(7) If this is not the last station to be checked, proceed to the next station; otherwise, return to the Tri-Met office and turn in the information to the Marketing Supervisor.

b. The Mobil Station at N. E. 122nd & Glisan.

Follow the steps as listed in Part a. (1) thru (7).

c. The Chevron Station at 181st & Broadway.

Follow the steps as listed in Part a. (1) thru (7).

d. The Chevron Station at S. W. Broadway & Columbia.

Follow the steps as listed in Part a. (1) thru (7).

TASK A-10 CALCULATION OF HOV LANE VIOLATORS

1. Purpose

To obtain the number of persons and vehicles violating the HOV Lane during the Peak Hours (7-8 A.M. & 4:30-5:30 P.M.) from data collected and/or processed for the Banfield Monitoring Program.

2. Time

Calculations of the number of person violation the HOV Lane is to be performed after the processing of the Vehicle Lane Counts and Vehicle Occupancy Counts.

3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Current Banfield Freeway Traffic Study Report Summary Sheet.

b. Banfield Freeway Vehicle Occupancy Count Sheets for the HOV Lane (Westbound 7-8 A.M. and Eastbound 4:30-5:30 P.M.).

c. Adding machine, calculator, or etc.

d. Pencils and/or pens

5. Procedure

a. Determination of number of persons violating the HOV Lane during the Peak Hour Westbound (7-8 A.M.).

(1) Using the Banfield Freeway Vehicle Occupancy Count Sheet for the HOV Lane, find the following:

(a) The sum of the total of one occupant vehicles plus the total of two occupant vehicles times two.

(b) Total the number of persons by taking the total number of one occupant vehicles times one plus the total number of two occupant vehicles times two plus the total number of three occupant vehicles times three.

(c) Divide the sum found in a. (1) (a) by the sum found in a. (1) (b).

(2) From the current Banfield Freeway Traffic Study Report Summary Sheet, use the peak hour vehicle count at 47th for Westbound HOV Lane.

(3) Multiply the quotient from a. (1) (c) times the number found in

a. (2).

(4) Enter in Peak Hour Person at 47th Westbound HOV Lane Violators on the current Banfield Freeway Traffic Study Report Summary Sheet.

b. Determination of the number of persons violating the HOV Lane during the peak hour Eastbound (4:30-5:30 P.M.)

Repeat the procedure a. (1) thru a. (4) using the Eastbound sheets.

c. Determination of the number of vehicles violating the HOV Lane Westbound (7-8 A.M.)

(1) Using the Banfield Freeway Vehicle Occupancy Count Sheets for HOV peak hour Westbound (7-8 A.M.) find the following:

(a) Total number of one occupant vehicles plus the total number of two occupant vehicles.

(b) Total number of three-or-more occupant vehicles plus the sum found in c. (1) (a).

(c) Divide the sum found in c. (1) (a) by the sum found in c. (1) (b).

(2). From the Current Banfield Freeway Traffic Study Report Summary Sheet, find the Peak Hour Vehicle count at 47th for Westbound HOV Lane.

(3) Multiply quotient found in C. (1) (c) by number found in c. (2).

(4) Record on current Banfield Freeway Traffic Study Report Summary Sheet.

d. Determination of the number of vehicles violating the HOV Lane Eastbound (4:30-5:30 P.M.)

Repeat the procedure c. (1) thru c. (4) substituting Eastbound for Westbound in all places.

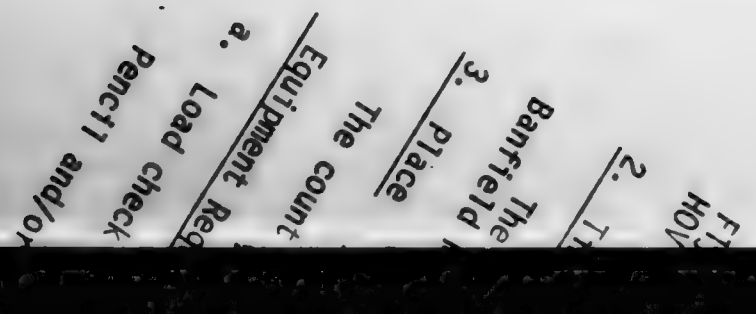
TASK A-11 CALCULATION OF CARPOOLS

1. Purpose

To determine the number of Carpools traveling the HOV Lane during the peak hours (7-8 A.M. and 4:30-5:30 P.M.)

2. Time

Calculation of the number of carpools in the HOV Lane is to be performed after the processing of the Vehicle Lane Counts and the Vehicle Occupancy Counts.



3. Place

William McConnel's office in the Oregon State Highway Division's Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Current Banfield Freeway Traffic Study Report Summary Sheet.

b. Banfield Freeway Vehicle Occupancy Count sheets for the HOV Lane (Westbound 7-8 A.M. & 4:30-5:30 P.M.)

c. Adding Machine, calculator, or etc.

d. Pencils and/or pens

5. Procedure

a. Determination of the number of carpools using the HOV Lane during the Peak Hour Westbound (7-8 A.M.)

(1) Using the Banfield Freeway Vehicle Occupancy Count Sheets for the HOV Lane, westbound (7-8 A.M.) find the following:

(a) The number of persons in the three-or-more occupant vehicles by taking the total number of three-or-more occupant vehicles times 3.

(b) Total number of persons by summing the total number of one occupant vehicles times one plus the total number of two occupant vehicles times two plus the total number of three-or-more occupant vehicles times three.

(c) Divide the product found in a. (1) (a) by the sum found in a. (1) (b).

(2) From the current Banfield Traffic Study Report Summary Sheet use the peak hour vehicle count at 47th for Westbound HOV Lane.

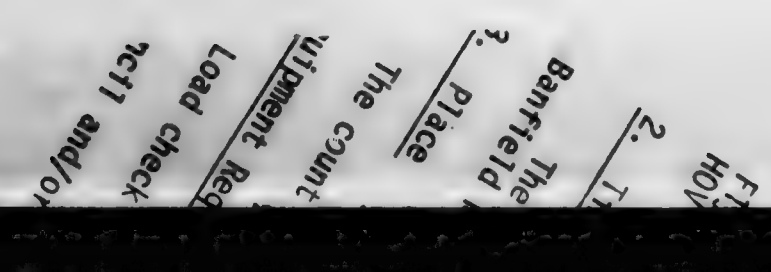
(3) Multiply the quotient found in a. (1) (c) times the number found in a. (2).

(4) Enter in Peak Hour Vehicle Lane count at 47th Westbound HOV Lane Carpools on the Banfield Freeway Traffic Study Report Summary Sheet.

b. Determination of the number of carpools using the HOV Lane during the Peak Hour Eastbound (4:30-5:30 P.M.).

Repeat the procedure a. (1) thru a. (4) substituting Eastbound for Westbound in all places.

c. Determination of the number of carpools using all lanes during the peak hour Westbound (7-8 A.M.)



(1) Using the Banfield Freeway Vehicle occupancy count sheets for Westbound (7-8 P.M.), find the following:

(a) The number of persons in three-or-more occupant vehicle by multiplying the total number of three-or-more occupant vehicles times three.

(b) Total number of persons by summing the total number of one occupant vehicles times one, plus the total number of two occupant vehicles times two plus the total number of three-or-more occupant vehicles times three.

(c) Divide the product found in c. (1) (a) by the sum found in c. (1) (b).

(2) From the current Banfield Freeway Traffic Study Report Summary Sheet, obtain the Westbound total of the peak hour Vehicle Count at 47th.

(3) Multiply the quotient found in c. (1) (c) by the number found in c. (2).

(4) Record on the Current Banfield Freeway Traffic study Report Summary Sheet.

d. Determination of the number of carpools using all lanes during Peak Hour Eastbound (4:30-5:30 P.M.)

In procedure c. (1) thru c. (4) substitute Eastbound for Westbound and repeat the procedure.

TASK B-1 DETERMINATION OF BANFIELD FLYER RIDERSHIP

1. Purpose

To obtain an accurate count on the number of patrons using the Banfield Flyer buses for determination of the number of persons traveling in the HOV Lanes.

2. Time

The count is to be made for every trip. Both inbound and outbound Banfield Flyer buses.

3. Place

The count is to be taken on board the Banfield Flyer buses.

4. Equipment Required

a. Load check slip.

b. Pencil and/or pen.

5. Personnel Required

a. Utilization of the drivers of the Banfield Flyer buses.

b. One person (clerk) for compiling the weekly total.

c. One person (Marketing Supervisor) for assembling all related data.

6. Procedure

a. Each driver of a Banfield Flyer bus is given a load check slip for each run made.

b. Each driver is to record the number of patrons embarking and disbarking at every loading point.

c. The drivers are to turn in the load check slips to the office clerk each day.

d. The office clerk totals the slips and delivers the weekly total to the Marketing Supervisor.

e. The Marketing Supervisor compiles a monthly total.

TASK B-2 DETERMINATION OF PARK AND RIDE LOT USAGE BY BANFIELD FLYER PATRONS

1. Purpose

To provide information for determining the number of vehicles driven to and parked at five park and ride lots for the purpose of using the Banfield Flyer buses.

2. Time

The count is taken once a month (approximately in the middle) during the middle of the week.

3. Place

The count is performed at the following locations:

a. Silver Skate Ice Rink at 102nd and Halsey.

b. Mall 205 at 105th and Stark.

c. Multnomah Kennel Club at 223rd and Glisan.

d. Reynolds High School at 201st and Halsey.

e. Mt. View Christian Church at 1890 N. E. Cleveland, Gresham.

4. Equipment Required

a. One vehicle.

b. A pad for recording.

c. Pencil and/or pen.

d. Counter (optional).

5. Personnel Required

Only one person is all that is required to perform this operation.

6. Procedure

The person doing the counting is to drive to each of the park and ride lots listed and make a physical count of the number of vehicles in each. This data is turned into the Marketing Supervisor.

TASK B-3 COLLECTION OF PARKING RATES

1. Purpose

To provide data for correlation between Banfield Flyer bus usage, Carpooling and Non-carpool users of the Banfield Freeway in relationship to the fluctuation in Parking Rates.

2. Time

3. Place

a. Ambassador Parking at 1202 S. W. Broadway.

b. City Center Parking at S. W. Broadway and Yamhill.

4. Equipment Required

a. One vehicle in good mechanical condition.

b. One pad for recording the data.

c. Pencil and/or pen.

5. Procedure

a. Ambassador Parking at 1202 S. W. Broadway.

(1) Drive to the parking lot in a safe manner.

(2) Park near by or information may be obtained from the signs displayed on the lot site as you drive by.

(3) Record the name and location of the parking lot on the pad.

(4) Record the cost for the first hour under the name and location of the parking lot.

(5) Record the cost for additional ½ hour under the name and location of the parking lot.

(6) Record the cost for all day under the name and location of the parking lot.

(7) Record the cost per month under the name and location of the parking lot.

(8) Go to the next parking lot to be checked if this is not the last one; otherwise, return to Tri-Met office and turn in the information to the Marketing Supervisor.

b. City Center Parking at S. W. Broadway and Yamhill.

Follow the steps as outlined in Part a. (1) thru (8).

TASK C-1 METHOD OF COMPUTATION OF DATA ON ACCIDENTS

1. Purpose

To show the relationship between the vehicle miles traveled, number of accidents, and average number of vehicles involved per accident on a monthly basis.

2. Time

As time permits after the reception of raw data from the different sources.

3. Place

Computation is performed in Jerry Street's office.

4. Equipment and/or Data Required

a. Calculator (electronic or manual).

b. Pencils or pens.

c. Automatic Traffic Recorder Data, Westbound and Eastbound, for the recorder at 21st Ave. overcrossing of the Banfield Freeway. (Furnished by Traffic Engineering Division, Planning Survey Section, of the Oregon State Hiway Division.)

d. Ramp counts from D. Peterson, Metro Traffic Engineer, for the following locations:

(1) Holiday Exit Westbound

(2) 33rd Entrance Westbound

(3) 37th Entrance Westbound

(4) 42nd Exit Westbound

(5) 58th Entrance Westbound

(6) 82nd Entrance Westbound

(7) 16th Entrance Eastbound

(8) 33rd Exit Eastbound

(9) 39th South Exit Eastbound

(10) 39th North Exit Eastbound

(11) 41st Entrance Eastbound

(12) 57th Exit Eastbound

(13) 60th Entrance Eastbound

(14) 68th Exit Eastbound

(15) 82nd Exit Eastbound

e. Accident data of those occurring within the limits of the project (from C. Vistica, Traffic Data Supervisor, ODOT) with the vollowing information:

(1) Month

(2) Day

(3) Hour

(4) Mile post

(5) Weather

(6) Lane

(7) Type collision

(8) Type accident

(a) Fatal

(b) Non-fatal

(c) Property damage only.

(9) Number of vehicles involved.

(10) Description of accident.

f. Distance between exits and entrances as listed below:

(1) Westbound clocked mileages.

(a)	M.P. 0.58 to Holidday off-ramp	0.63 mile
(b)	Holiday off-ramp to 33rd on-ramp	0.83 mile
(c)	33rd on-ramp to 37th on-ramp	0.31 mile
(d)	37th on-ramp to 42nd off-ramp	0.27 mile
(e)	42nd off-ramp to 58th on-ramp	0.73 mile
(f)	58th on-ramp to 82nd on-ramp	1.68 miles
(g)	82nd on-ramp to M.P. 5.16	0.28 mile

(2) Eastbound clocked mileages.

(a)	M.P. 0.58 to 16th on-ramp	0.75 mile
(b)	16th on-ramp to 33rd of-ramp	0.76 mile
(c)	33rd off-ramp to 39th off-ramp (So.)	0.34 mile
(d)	39th off-ramp South to 39th off-ramp North	0.10 mile
(e)	39th off-ramp North to 41st on-ramp	0.51 mile
(f)	41st on-ramp to 57th off-ramp	0.73 mile
(g)	57th off-ramp to 60th on-ramp	0.29 mile
(h)	60th on-ramp to 68th off-ramp	0.47 mile
(i)	68th off-ramp to 82nd off-ramp	0.85 mile
(j)	82nd off-ramp to M.P. 5.16	0.14 mile

5. Personnel Required

Only one person is required to perform the calculations.

6. Procedure

a. Process the accident data furnished by C. Vistica in the following manner.

(1) Assemble the accidents by month.

(2) Total number of accidents per month.

(3) Derive the average number of vehicles per accident thusly.

(a) Total number of vehicles involved in all the accidents by month.

(b) Divide the total number of vehicles involved by the total number of accidents for that month.

b. From the automatic counter data furnished by the Traffic Engineering Division, obtain the Average Daily Traffic (ADT) using the freeway at the 21st Ave. overcrossing of the Banfield Freeway.

c. From the ramp counts furnished by D. Peterson, Metro Traffic Engineer, compute the ADT for each ramp, if not previously done. To do this, multiply the Average Weekday Traffic by 0.90.

d. Determine the average miles traveled by the method listed below.

(1) Westbound

(a) Subtact Holiday exit count from ADT at the counter and multiply the remainder by the distance in miles between M.P. 0.58 and Holiday exit.

(b) Multiply ADT at the counter by the distance in miles between Holiday exit and 33rd entrance.

(c) Subtract the count at 33rd entrance from ADT at counter. This is the number of vehicles traveling between 33rd entrance and 37th entrance. Multiply this number of vehicles by the distance in miles between 33rd entrance and 37th entrance.

(d) Subtract the count at 37th entrance from number of vehicles between 33rd entrance and 37th entrance. This gives the number of vehicles traveling between 37th entrance and 42nd exit. Multiply this number of vehicles by the distance in miles between 37th entrance and 42nd exit.

(e) Add the count at 42nd exit to number of vehicles between 37th entrance and 42nd exit. This gives the number of vehicles traveling between 42nd exit and 58th entrance. Multiply this by the distance

in miles between 42nd exit and 58th entrance.

(f) Subtract the count at 58th entrance from number of vehicles traveling between 42nd exit and 58th entrance. This gives the number of vehicles traveling between 58th entrance and 82nd entrance. Multiply this by the distance in miles between 58th entrance and 82nd entrance.

(g) Subtract the count at 82nd entrance from number of vehicles traveling between 58th entrance and 82nd entrance. This gives the number of vehicles traveling between 82nd entrance and M.P. 5.16. Multiply this by the distance in miles between 82nd entrance and M.P. 5.16.

(h) Find the sum of the products of Parts (1) (a) thru (1) (g) of above. This gives the total number of vehicle miles traveled per day westbound.

(2) Eastbound

(a) Subtract the 16th entrance traffic from ADT at the counter and multiply the remainder by the distance in miles between M.P. 0.58 and 16th entrance.

(b) Multiply the ADT at the counter by the distance in miles between 16th entrance and 33rd exit.

(c) Subtract the count at 33rd exit from ADT at the counter. This gives the number of vehicles traveling between 33rd exit and 39th South exit. Multiply this by the distance in miles between 33rd exit and 39th South exit.

(d) Subtract the count at 39th South exit from the number of vehicles traveling between 33rd exit and 39th South exit. This gives the number of vehicles traveling between 39th South exit and 39th North exit. Multiply this by the distance in miles between 39th South exit and 39th North exit.

(e) Subtract the count at 39th North exit from the number of vehicles traveling between 39th South exit and 39th North exit. This gives the number of vehicles traveling between 39th North exit and 41st entrance. Multiply this by the distance in miles between 39th North exit and 41st entrance.

(f) Add the count at 41st entrance to the number of vehicles traveling between 39th North exit and 41st entrance. This gives the number of vehicles traveling between 41st entrance and 57th exit. Multiply this by the distance in miles between 41st entrance and 57th exit.

(g) Subtract the count at 57th exit from the number of vehicles traveling between 41st entrance and 57th exit. This gives the number of vehicles traveling between 57th exit and 60th entrance. Multiply this by the distance in miles between 57th and 60th entrance.

(h) Add the count at 60th entrance to the number of vehicles traveling between 57th exit and 60th entrance. This gives the number of vehicles traveling between 60th entrance and 68th exit. Multiply this by the distance in miles between 60th entrance and 68th exit.

(i) Subtract the count at 68th exit from the number of vehicles traveling between 60th entrance and 68th exit. This gives the number of vehicles traveling between 68th exit and 82nd exit. Multiply this by the distance in miles between 68th exit and 82nd exit.

(j) Subtract the count at 82nd exit from the number of vehicles traveling between 68th exit and 82nd exit. This gives the number of vehicles traveling between 82nd exit and M.P. 5.16.

(k) Find the sum of the products of parts (a) thru (j) of above. This gives a total number of vehicle miles traveled per day eastbound.

(3) Combine the total miles traveled westbound and eastbound.

e. For the monthly number of vehicle miles traveled, take the combined daily westbound and eastbound totals times the number of days in that month.

f. Accidents per million miles is figured by dividing the total number of vehicle miles in millions of miles traveled that month into the number of recorded accidents.

TASK D-1 METEOROLOGY DATA GATHERING (SERVICE PROCEDURES)

1. Purpose

To obtain meteorological data (wind velocity and wind direction) needed to make proper analysis of air quality tests conducted within the Banfield Corridor.

2. Time

The weather station should be checked twice each week for accuracy of the day and time scale on the chart and for need of chart change. Also, on the first check during a month, the batteries shall be replaced with new batteries..

3. Place

The weather station is located on the roof of the KATU, Channel 2, Television Studio at 2153 N. E. Sandy Blvd. The station is mounted on pole 10+ feet above roof parapet.

4. Equipment

a. Weather Station - MRI Unit.

b. Vehicle for transportation to and from the site.

c. Time piece, e.g. wrist watch, pocket watch, etc., is required to check the time setting of the chart. Knowledge of the date is required for setting the chart.

d. Adjustable open end wrench.

e. Two persons is ideal, but one person can do the job.

f. Four 'D' cell batteries (when changing batteries) on the first of each month.

g. Pencil and/or pen.

h. Spare chart.

5. Service Procedures

a. Drive to KATU TV Studio and park nearby.

b. Enter building and go to the Art Department on the second floor. If this is your first time, ask the receptionist for directions.

c. Go out the window of the Art Department and onto the roof. Turn to your left.

d. Ascend the ladder which you see there. Exercise safety when climbing.

e. Cross this roof to another ladder and ascend. Again, exercise safety.

f. Climb over the 18" parapet to the top roof.

g. The meteorological station is to your left and about 10 feet away.

h. Lower the unit by the following method:

(1) Loosen one of the three bolts holding the unit mounting pole inside of the sleeve.

(2) Lift the unit mounting pole slightly and remove bolt which passes through the center of the unit mounting pole.

(3) Lower unit mounting pole and insert bolt in hole that is approximately two feet from the bottom of the unit. DO NOT LET IT DROP!!!

i. Disengage the two latches and open.

j. "Cage" the unit as per the instructions on the inside of the door.

k. Check the time on the chart for accuracy as follows:

(1) Draw arrow to time on the chart.

(2) Write down the date on the chart.

(3) Write down the actual time on the chart even though the units' time may not be correct.

(4) Initial the chart.

(5) If the unit is not on time, roll unit forward to the correct time and mark down date at this point.

(6) If there is not enough chart to last until the next check, replace the chart as per instructions on the inside of the door.

(7) Be sure to mark the time and date on the old chart when it is removed and a new one installed.

(8) Uncage unit, close and latch door.

l. If this is the check where the batteries are to be replaced, do the following:

(1) Open the battery compartment on the bottom of the unit.

(2) Remove the used batteries.

(3) Install new batteries with the positive ends up.

(4) Close the battery compartment.

m. Remove the bolt from the service position.

n. Raise the unit mounting pole up hand under hand. DO NOT DROP!!!

o. When raised, position the hood-like protrusion to a northerly direction.

p. Line up the bolt hole that goes through the unit mounting pole with the punch mark on the sleeve and insert the bolt.

q. Tighten down the steadying bolt that was loosened.

r. Return to the truck by the same route that was followed to reach the roof by reversing the order from before.

s. Remember to exercise safety when ascending and decending the ladders.

t. Used charts are to be taken to the United Cerebral Palsy Workshop at 5417 S. E. 72nd Avenue for analysis. NOTE: Upon receipt of the analysis sheet from the United Cerebral Palsy Workshop for the M.R.I. Weather Station the sheet is forwarded to Rick Wood, Environmental Section, Oregon State Highway Division, Salem, Oregon.

u. Return to the office or next assigned job.

TASK D-2 OPERATION OF THE HIGH-VOLUME SAMPLER

1. Purpose

To determine the concentration of lead particulates within the ambient air in the Banfield Corridor that includes the parallel arterial streets.

2. Time

Particulate samples are to be obtained approximately ten times per month. Two or three times per week with monthly schedule set up before the month starts. This work should be scheduled to not conflict with other procedures.

a. On the day after last scheduled test day, and no later than the day before the next calendar scheduled test date, the sample has to be removed and new test schedule set in timer clock.

b. It is important to note that the equipment operates on a seven-day clock and the clock, if not reset, will retest on the seventh day. It is imperative that no more than six days elapse between test cycle and removal of sample, since the clock will retest on the seventh day on the earlier sample filter.

3. Place

The Hi-Vol Sampler is located at the intersection of N. E. 19th Ave. and N. E. Multnomah.

NOTE: Additional samplers may be added at a later date.

4. Equipment Required

a. One vehicle for transportation to and from the permanent location for the sampler.

b. The High-Volume Sampler from General Metal Works.

c. Special filter papers for Hi-Vol Sampler.

d. Envelopes.

e. Field sampling report titled "Suspended Particle Form".

f. Pencils and/or pens.

NOTE: No laboratory equipment is required, all of the samples will be taken to the Oregon Department of Environmental Quality Control for analyzation at a later time.

5. Personnel Required

One person only is required.

NOTE: The person should be familiar with the equipment. Be competent enough to recognize maintenance problems along with removing and replacing filter papers. Repairs will be performed by others.

6. Procedure

a. On the day scheduled for collecting the last sample and setting up the next test, do the following items before leaving the office.

(1) Get one envelope.

(2) Get one clean filter paper.

(3) Get one form entitled "Field Sampling Report-Suspended Particulate".

NOTE: All the above items can be found in the top drawer of the filing cabinet in Bill McConnel's office, labeled Lead-Banfield HOV.

(4) A spare set of 1 through 3 of above can be taken along for emergency, but if not used they should be returned to the file upon return to the office.

(5) Damaged or bad filters are not to be used, but SHALL NOT BE DESTROYED. They are to be returned in the envelope with the form filled out noting the disorder under the remarks column on the form.

(6) Make sure you know the date and day of the next test to be taken.

b. After acquiring all the required items, the test person should drive to and park in a safe manner at the Hi-Vol Sampler location.

c. Proceed to retrieve the previous sample as follows:

(1) Lift the top of the unit up and loosen the four wing nuts that hold the square metal frame.

(2) After the four wing nuts have been loosened, push them to one side and lift off the metal bracket.

(3) Remove the filter paper, being careful not to tear the filter paper, and fold the filter paper so that the sample material is facing inward.

(4) Place the filter paper in the envelope.

(5) Complete filling out the test form as per the following example:

FILTER # (LOCATION ON FILTER) TIME START _____

COUNTY MULTNOMAH TIME STOP _____

STATION 2614003 START FLOW _____

START DATE (as per schedule) STOP FLOW _____

Use remarks as required for equipment failure, changed filter papers, etc.

(6) Place form in envelope with filter paper.

d. Process for completing sample removal and setting up test equipment next sample.

(1) After completion of item No. c. above, place new filter paper back in the sampler with the smooth side of the filter paper facing downward.

(2) Place metal bracket over the filter paper by reversing operation No. c. (2).

(3) Tighten the four nuts finger tight.

(4) Put the lid back down to the original position.

(5) Open the side door of the Hi-Vol Sampler.

(6) Open a second door, made of metal, inside the sampler to find the time adjustment controls. The seven-day disk with two metal clips on its outside edge is to be set to run for 24 hours starting at 0:01 and running to 23:59 by doing the following:

(a) Set the lighter colored clip to 12:00 midnight of the day before the test is to be taken (Start Time).

(b) Set the darker colored clip to 12:00 midnight of the day that the test is to be taken (End Test).

(c) Tighten clips finger tight.

(7) Check sampler suction pump motor by turning on the switch that is located next to the time adjustment control. Make sure to turn switch back off after testing. NOTE: Sampler has had a history of motor failure (burn-out). If the motor fails to start, note on the Field Sample Report Form the failure probably happened during collection of the sample and notify your supervisor as soon as possible so that repairs can be made by Arlo Bones.

(8) Close both side doors.

e. When you return to office, place the envelope holding the sample in the file drawer "Lead-Banfield HOV".

f. When twenty or so samples have been collected, notify the DEQ one or two days in advance that you are bringing in the samples. They will prepare 24 new filters for you to pick up when you deliver the used filters for processing.

TASK D-3 COLLECTION OF AMBIENT AIR SAMPLES FOR MONITORING CARBON MONOXIDE LEVELS

1. Purpose

To obtain samples of the ambient air within the Banfield Corridor and along the parallel streets for checking concentrations of Carbon Monoxide (CO).

2. Time

The six AQS Model 2 Sequential Air Samplers are programed to take twelve consecutive one hour samples each. These samples are to be taken approximately ten times per month on random days without taking samples on any two consecutive days. The ten random samples must have at least one sample that is taken on a Saturday and one sample that is taken on a Sunday. That leaves eight samples to be taken on random weekdays.

3. Place

The six numbered samplers, Nos. 002 through 007, are located at the following sites:

a. Sampler No. 002 is located at 47th and Banfield Freeway. The unit is attached to a column 10 feet off the ground on the north side of the structure.

b. Sampler No. 003 is located at 19th and Multnomah. The unit is inside the compound enclosing the Environmental Test Trailer.

c. Sampler No. 004 is located at Mile Post 1.46 on the Banfield Freeway. The unit is attached to the back of a road sign on the north side of the freeway. The legend on the sign reads "Lloyd Center Exit".

d. Sampler No. 005 is located at N. E. 20th and Sandy Blvd. This unit is on the roof of the Jantzen Knitting Mills.

e. Sampler No. 006 is located at N. E. 22nd and Burnside. This unit is on the roof of the B & B Auto Supply.

f. Sampler No. 007 is located at N. E. 21st and Broadway. This unit is located behind the sign with the legend "Zeller's Funeral Chapel".

4. Equipment Required

6 - AQS Model 2 Sequential Air Samplers.

1 - 8-foot step landder.

1 - 20-foot step ladder (stored inside the entrance marked "Plant Entrance" at Fantzen Knitting Mills, Sampler No. 005 location).

1 - 24-foot step ladder (borrowed from the maintenance section at the Banfield office).

1 - Rope/pully combination.

1 - Crew cab truck.

1 - Voltmeter.

24 - 12 volt dry cell batteries.

72 - 5 litre Tedlar bags with contents evacuated (two complete sets of 72 bags are required, one set in the samplers and one set for replacement).

6 - large cloth bags.

1 - roll masking tape.

5. Personnel Required

Two persons are needed for the collection of samples from the various sites as listed above.

6. Procedure

a. Sampler No. 002 at N. E. 47th and Banfield Freeway.

(1) Drive up on the 47th Ave. structure and park safely.

(2) Attach rope/pully to swinging arm.

(3) Lower hook and catch it on the bail that is attached to the sampler.

(4) Raise the sampler up and place it on the sidewalk area of the structure.

(5) Remove the cover of the AQS Model 2 by releasing the spring clamps.

(6) Lift the top off being careful not to pull the full Tedlar bags off.

(7) Lock all hose clamps closed.

(8) Place a piece of masking tape on each Tedlar bag and mark it according to the Sampler and position number. I.e. Unit 002, Bag 10.

(9) Reprogram the AQS Model 2 for the next sampling period in accordance with the instructions for the operation of the AQS Model 2 Sequential Air Sampler by Environmental Measurements, Inc.

(10) Using the voltmeter test the batteries under load. Replace them if the reading is under 9 volts when tested under load.

(11) Attach the empty Tedlar bags to the quick disconnect clamps.

(12) Make sure all hose clamps are open.

(13) Place empty Tedlar bags into the housing being careful not to dislodge them from the pumps, tangle the hoses, or tear the bags.

(14) Replace the cover and lock it closed with the spring clamps.

(15) Hook rope/pully to the bail of the unit and lower it back into position.

(16) Proceed to the next unit to be serviced.

b. Sampler No. 003 located at 19th and Multnomah.

(1) Park by the Environmental Test Trailer compound.

(2) Follow the procedure listed in Part a. (5) thru (14).

(3) Proceed to the next unit to be serviced.

c. Sampler No. 004 located at Mile Post 1.46 on the Banfield Freeway.

(1) Park at the gore of the Banfield Freeway and Holiday Ave. exit and proceed to the test site taking the 8-foot ladder and needed equipment with you.

(2) Set the ladder against the sign post. Ascend the ladder and lower the sampler to the ground. It is easier to service it in this position.

(3) Follow the procedures listed in Part a. (5) thru (14).

(4) Replace the sampler in its position and return to the truck with the ladder, collected samples, and all equipment listed in 1 above.

(5) Proceed to the next unit to be serviced.

d. Sampler No. 005 located at N. E. 20th and Sandy Blvd.

(1) Park at the bank across N. E. 20th from the Jantzen Knitting Mills marked "Plant Entrance".

(3) Set up the ladder at the side of the building.

(4) Ascend the ladder to the top of the building taking all necessary equipment and material needed to service the sampler.

(5) Service the unit following the procedures set forth in Part a. (5) thru (14).

(6) Descend the ladder taking all equipment and materials with you.

(7) Replace the ladder in the Jantzen Knitting Mills where you found it.

(8) Proceed to the next unit to be serviced.

e. Sampler No. 006 located at N. E. 22nd and Burnside.

(1) Park at the nearest convenient spot.

(2) Take 24-foot ladder from the roof of the crewcab truck and place it on the side of the B & B Auto Supply Building.

(3) Ascend the ladder with all the necessary equipment and materials required for servicing this unit.

(4) Service the unit following the procedure outlined in Part a. (5) thru (14).

(5) Descend the ladder with all equipment and materials.

(6) Put the ladder back on top of the crewcab and proceed to the next unit to be serviced.

f. Sampler No. 007 located at N. E. 21st and Broadway.

(1) Park near the sign with the legend "Zeller's Funderal Chapel".

(2) Service the unit following the procedure outlined in Part a. (5) thru (14).

(3) Return to the office with the samples of ambient air for processing and make sure all equipment and materials are returned to the proper place.

TASK D-4 DETERMINATION OF CARBON MONOXIDE CONTENT USING THE ECOLYZER

1. Purpose

Determination of the Carbon Monoxide content of the ambient air samples collected within the Banfield Corridor and along the parallel streets.

2. Time

The Carbon Monoxide contents are checked after ambient air samples from the AQS Model 2 Samplers are collected and delivered to Bill McConnel's office (approximately ten times per month). Actual test should be run during slack work periods so as to not interfere with other data gathering as required by the Banfield Monitoring Program.

3. Place

The Ecolyzer is a portable field CO analyzer which is located and used in William McConnel's office of the Highway Building at 5821 N. E. Glisan St., Portland, Oregon.

4. Equipment Required

a. Ecolyzer

b. Bottle of span gas (which has a known quantity of CO concentration) (see tag on span gas bottle).

c. Proper forms (Air Quality Monitoring Program-Carbon Monoxide). (Figure A-20)

The completed Ecolyzer forms on Carbon Monoxide are submitted to Rick Wood, Environmental Section, Oregon State Highway Division, Salem, Oregon, for processing and dissemination to proper parties.

d. The ambient air samples from one or all of the Samplers as follows: (See CO sampling procedure for location of sample stations).

(1) 002

(2) 003

(3) 004

(4) 005

(5) 006

(6) 007

5. Procedure

a. Turn the starting switch "ON" and let the Ecolyzer run for a minimum of five minutes to warm up.

b. Turn switch to "ZERO" and wait approximately two minutes.

c. Adjust the needle to zero using the "ZERO" calibration screw.

FIGURE A-20

AIR QUALITY MONITORING PROGRAM

N.E. UNION AVE. - N.E. 82nd AVE. SECTION
COLUMBIA RIVER HWY. - INT. - 80N
MULTNOMAH COUNTY, OREGON

DATE OF SAMPLE_____ DATE OF ANALYSIS_____

LOCATION_____ WEATHER_____

CARBON MONOXIDE

TIME	PPM TEST #1	PPM TEST #2	PPM AVERAGE	COMMENTS
7:00 - 8:00 AM				
8:00 - 9:00 AM				
9:00 - 10:00 AM				
10:00 - 11:00 AM				
11:00 - 12:00 Noon				
12:00 - 1:00 PM				
1:00 - 2:00 PM				
2:00 - 3:00 PM				
3:00 - 4:00 PM				
4:00 - 5:00 PM				
5:00 - 6:00 PM				
6:00 - 7:00 PM				
AVERAGE				

d. Obtain a Tedlar bag of span gas from control bottle of gas.

e. Attach the bag to the tubing and opern the valve being careful not to allow any gas to escape from or enter into the bag.

f. Turn switch to "ON" and wait until the needle stops. Adjust the needle at "CAL" using the calibration screw to the proper valve of the span gas as marked on the bottle of span gas.

g. Close valve on the bag and remove from tubing. Be careful not to allow any gas to escape from or enter into the bag.

h. Check zero needle reading. If necessary, adjust as in steps b. and c.

i. Turn starting switch to "ON". Leave Ecolyzer in "ON" position while testing the field samples.

j. Attach sample bag to be tested to the tubing.

k. Open valve and read the meter after about one minute.

l. Record reading on forms according to time and location.

m. Close valve and remove bag from tubing.

n. Repeat steps j. thru m. for two more samples.

o. After every third sample, check zero needle reading as per step No. b. above. If adjustment is needed (needle not zero after two minutes), adjust according to step No. c. above.

p. Repeat steps i. thru o.

q. After the sixth sample, recalibrate the Ecolyzer following steps No. b. thru h.

r. Repeat steps i. thru q. until all samples have been checked.

NOTE: Additional information may be acquired by reading the American Laboratory, July, 1974, Bulletin titled:

"CONTROLLED-POTENTIAL ELECTROCHEMICAL ANALYSIS OF CARBON MONOXIDE"

by K. F. Blurton & H. W. Bay

TASK D-5 COLLECTION, TESTING AND RECORDING OXIDES OF NITROGEN (NO AND NOx) PRESENT IN THE AMBIENT AIR WITHIN THE BANFIELD CORRIDOR

1. Purpose

To determine the relative amount of oxides of nitrogen (NO AND NOx) along the Banfield Corridor for future comparison with other data.

2. Time

Continuous sampling is required. Although the collection, testing and recording is performed on a continuous basis, the testing and recording equipment needs to be checked for accuracy. This testing is to be done by a skilled technician every Monday, Wednesday and Friday of each week during the regular day shift hours.

3. Place

The testing for this project is performed at the Environmental Trailer's permanent location at a point approximately 200 ft. south of the intersection of N. E. 19th and Multnomah Streets in a large parking lot.

4. Equipment Required for Sampling, Testing and Recording the Oxides of Nitrogen

a. A vehicle to get to and from the test location.

b. The proper keys to gain entry to the gate and Environmental Trailer. Keys may be obtained from Mr. William McConnel at the Oregon State Highway Division, 5821 N. E. Glisan Street, Portland, Oregon

c. Security fence with gate for protection of the trailer and equipment from vandalism.

d. Environmental Test Trailer with the following minimum requirements:

(1) Tandem axles are required due to the size and type of trailer constructed to hold the sampling, testing and recording equipment that will be required for this project.

(2) The testing equipment used in the trailer requires that inside temperatures be held at 72 degrees F (22 degrees C) which requires both heating and air conditioning equipment.

(3) Safety requires an explosion-proof closet inside the trailer for storage of combustible gas cylinders.

(4) Safety also requires explosion-proof fixtures inside the explosion-proof closet.

(5) Equipment bench with racks for equipment mounting.

(6) 220 volt power service.

(7) Circuit panels for both 110 volt and 220 volt circuits.

(8) 110 volt outlets on the equipment bench and at various locations throughout the trailer.

(9) Two sets of portable trailer steps for access to trailer and equipment.

(10) Leveling blocks for trailer. (Trailer must be level for proper operation of test equipment.)

(11) Step stool inside trailer for servicing equipment.

(12) Adequate lighting for entire testing area.

e. Type of equipment used and required for testing for NO and NOx.

(1) D.A.S. time clock and calendar date with D.A.S. LOGIC PACK UNIT.

(2) M.L. (monitor labs) Nitrogen Oxides Analyzer Model #8440.

(3) 8500 Calibrator.

(4) Two L. & N. Record Strip Graph Recorder as manufactured by Speedomax G.

(a) One for NO.

(b) One for NOx.

(5) Two Oxone dryers (in series).

(6) One gas bottle of HO_2 Calibration gas.

f. Forms for recording and checking equipment. (Figure A-20)

(1) Rolls of strip graph paper for the L. & N. recorders.

NOTE: Adequate supply should always be maintained in the Environmental Trailer to avoid delivery problems.

(2) Two 8½x11 premade forms titled Air Pollution Monitor No. (for the NOx form add x to the NO as required) (Fig A-21-22) for recording hourly average from the graph paper for NO and NOx recorders. Note: All the above forms and graph papers are maintained by William McConnel in the Oregon State Highway Building at 5821 N. E. Glisan Street, Portland, Oregon. The graph paper is furnished by Arlo Bones, Electrical Shop, Salem, Oregon, upon notification of need.

FIGURE A-20

Check and record the following: Banfield Environmental Van

NOX Analyzer	Min Value	Max Value	Monday	Wednesday	Friday
Vacuum Gauge	24 lbs	24 lbs			
NOX Flow	550	- -			
NO Flow	550	- -			
Ozone Flow	100	- -			
NOX Calib. Unit					
(Note #1)					
PSI Gauge	23.8	24.2			
NO Flow	2.15	2.15			
Ozone Flow	5.6	5.6			
NO Calib. Bottle					
Bottle Pressure	100 lbs	- -			
Output Pressure	34 lbs	36 lbs			
(Note #2)					
Oscillagraph					
NO Zero	0.9	1.1			
NO Span 1	±10%	of			
NO Span 2	Calib	Value			
NOX Zero	0.9	1.1			
NOX Span 1	±10%	of			
NOX Span 2	Calib.	Value			

(Note #1) Turn NOX Calib. control panel ready switch on.
(Note #2) Turn NOX Calif. control panel ready switch off.

FIGURE A-20 cont'

Banfield Envoronmental Van
Check the following:

DAS		Monday	Wednesday	Friday
Time (Note #3)	Actual			
	Display			
Oscillagraphs Time (Note #4)	Actual			
	Graph			
Paper (Note #5)				
Drierite Filter (Note #6)	%left			
NOX Ambient Air Filter	Replace every Two Weeks- Date Changed			
Charcoal Filter (Note #7)	% left			

(Note #3) Check time by turning display switch on. If time is incorrect, record time of DAS and the acutal time. Correct DAS time using time switches. When through, turn time and display switches off.

(Note #4) If graph time is incorrect, record actual time on graph and in this log. Record graph time in log. To correct time, move graph forward.

(Note #5) Refill ink pens when paper is changed.

(Note #6) Replace if one inch or less of blue is left.

(Note #7) As charcoal is used up it turns to a dull appearance.

FIGURE A-21

AIR POLLUTION MONITOR

NO

DAY:		DATES:		DAY:	
TIME	READING	CORRECTION	TIME	READING	CORRECTION
12pm			12pm		
11pm			11pm		
10pm			10pm		
9pm			9pm		
8pm			8pm		
7pm			7pm		
6pm			6pm		
5pm			5pm		
4pm			4pm		
3pm			3pm		
2pm			2pm		
1pm			1pm		
12n			12n		
11am			11am		
10am			10am		
9am			9am		
8am			8am		
7am			7am		
6am			6am		
5am			5am		
4am			4am		
3am			3am		
2am			2am		
1am			1am		

FIGURE A-22

AIR POLLUTION MONITOR

NO_x

DAY: DATES: TIME	READING	CORRECTION	DAY: TIME	READING	CORRECTION
12pm			12pm		
11pm			11pm		
10pm			10pm		
9pm			9pm		
8pm			8pm		
7pm			7pm		
6pm			6pm		
5pm			5pm		
4pm			4pm		
3pm			3pm		
2pm			2pm		
1pm			1pm		
12n			12n		
11am			11am		
10am			10am		
9am			9am		
8am			8am		
7am			7am		
6am			6am		
5am			5am		
4am			4am		
3am			3am		
2am			2am		
1am			1am		

g. Pens, pencils, etc. for recording data.

h. An accurate time piece set to the correct time of day and knowledge of the correct date and day of the week.

5. Personnel needed for Test Equipment Operation and Maintenance

Two persons can be used, but only one person (a skilled technician) is required for general maintenance, recording data and adjustment of equipment. This person must be trained or instructed by a person knowledgeable on the above equipment and the procedure that we require for operation, maintenance and replacement of minor items required for testing. They should also be capable of recognizing major problems with the test equipment, records, etc.

NOTE: For corrections, repairs, etc. of major items, all work shall be referred to Arlo Bones, Electrical Shop, Salem, Oregon, phone number 378-2139.

6. Procedure

a. The skilled technician before going to the Environmental Trailer location should do the following:

(1) Make sure that he has the proper forms and graph charts (if the supply at the trailer was low during the preceding visit).

(2) Make sure that his time piece (watch) is set to the correct time of day.

(3) Make sure that pencil, pen, keys, etc., and miscellaneous materials that would be required are taken.

b. Proceed to the Environmental Trailer location using vehicle and making sure all items required in a. above are taken.

c. Park the vehicle next to the Environmental Trailer and proceed to unlock the gate and the trailer.

d. Enter the trailer, turn on the lights, and shut the door so as to maintain the inside air temperature at 72 degrees (22 degrees C).

e. Proceed to check and record data using the two required forms as outlined for steps required.

(1) Directly above the correct day of the week on both sheets the skilled technician shall enter the date and above that the intitals of the person or persons recording and taking data.

(2) Starting with the "Check and record the following" sheet, the data be entered following the form outline, all instructions as noted on the form and as listed below:

(a) NOx Analyzer

1) Read and record the vacuum guage.

2) Read and record the NOx flow.

3) Read and record the NO flow.

4) Read and record the Ozone flow.

NOTE: If ther is any substantial variation in any of the above readings, below the minimum or above the maximum shown on the forms, Arlo Bones should be notified by phone so that corrections can be made by him.

(b) NOx Calibration Unit

1) Following the instructions under NOTE #1, (Figure A-20) turn NOx Calibration Control panel ready switch to ON and allow warm-up time and then read and record the following:

a) P.S.I. guage.

b) N.O. flow.

c) Oz. flow.

NOTE: Manually adjust if needed any of the above items if the reading varies from the values shown on the form.

(c) NO Calibration Bottle

1) Bottle pressure. Note: If pressure is below 100 lbs., the bottle shall be replaced with a new one. Also, pressures below 100 will cause item 2) below to vary from the min/max allowable readings.

2) Output pressure. No adjustment should be required. Normally item No. 1) above is the only correction required.

(d) Follow instructions under note 2), (Figure A-20) turn NO_x calibration control panel ready switch to OFF and continue to next step.

(e) Oscillograph - Read and record the following: Note: They should be within the min/max limits shown on the form.

1) NO zero.

2) NO span 1.

3) NO span 2.

4) NOx zero.

5) NOx span 1.

6) NOx span 2.

(f) Continue to the second sheet titled "Check the following" and continue reading, recording and correcting equipment as follows, still using the form and notes as an outline for procedure.

(g) D.A.S.

(h) Time (note 3, FigureA20) - Read and record actual time from your watch and displayed time of the digital readout, following the instructions in note 3.

(i) Note 3 instructions - (Figure A20). Check the time by turning the display switch to on. If the time is incorrect, record the time of DAS and the actual time. Correct the DAS time using the time switches. When you are through, turn the time and display switches off.

(j) Oscillographs (two L. & N. recorders).

(KO Time (note 4, FigureA20) - Actual and graph time readings need to be taken for both the NO recorder and the NOx recorder and recorded separated in the correct day of week column.

(1) (Note 4, FigureA20). If graph time is incorrect, record the actual time on the graph and in this log. Record the graph time in the log. To correct time, move graph forward.

(m) Paper - (note 5, Figure A20)- Refill ink pens when paper is changed.

1) Always change paper when there is not enough paper left in the roll to run the next visit.

2) When changing paper, always note the date and the actual time on both the ends of the new and old rolls. Make sure the new roll is set to the proper time on the roll and that the pen is working.

(n) Drierite filter (note 6, FigureA20).- Replace if one inch or less of blue coloring is left.

(o) NOx ambient air filter - Replace every two weeks and

record the date last changed on the form.

(p) Charcoal filter (note 7, Figure A20)- As the charcoal is used up it turns to a dull appearance.

f. After all records are complete, the technician should take all recorded data forms and rolls of graph paper that may have been removed from the recorders to William McConnel's office for filing and submitting to the D.E.Q., Salem, Oregon.

g. Upon completion of the required work at the Environmental Trailer, the steps b. through d. should be reversed, making sure that all testing equipment is operating correctly and the lights are out and all locks are secure.

h. After returning to the office, or when work schedule permits, the rolls of graph paper should be interpreted and transcribed into the correct form for future storage in the computer at Salem as follows:

(1) Using a straight edge, approximate the hourly average on the rolls by the hour scale shown and enter the value on the form by the hour. Use one form for each 24-hour period and separate forms for NO and NOx rolls. (Fig A23)

(2) After each roll is transcribed to the daily form by hour average, the roll and the daily sheet shall be sent to the Environmental Section of the Oregon Department of Transportation, Salem, Oregon, Attention Byron Meadows.

(3) The Banfield Environmental Van Data Sheets (two taken each day) should be sent to the same place (item #2 above) once a month, or when rolls are submitted.

(4) Copies of item #2 daily form and item #3 forms should be kept in the file located at William McConnel's office. Do not keep copies of the graph rolls or the originals at the trailer.

FIGURE A-23

17th & Multnomah NO & NOX Uncorrected

Year	Station ID	Station Loc.	Averaging Int.	Julian Day
	8 8	0 1	6 0	
1 2	3 4	5 6	7 8	9 10 11

Ch ID	Ch ID
6	7
16	24

12 Hour	15 Min.		
1	0	0	
2	0	0	
3	0	0	
4	0	0	
4	3	0	Zero
4	4	5	Span
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	
11	0	0	
12	0	0	
13	0	0	
14	0	0	
15	0	0	
16	0	0	
17	0	0	
18	0	0	
19	0	0	
20	0	0	
21	0	0	
22	0	0	
23	0	0	
24	0	0	

17 Status	23 NO Reading	
0		
0		
0		
0		
3		Zero
4		Span
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		
0		

25 Status	31 NOX Reading
0	
0	
0	
0	
3	
4	
0	
0	
0	
0	
0	
0	
0	
0	
0	
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Remarks

APPENDIX B

BANFIELD MONITORING PROGRAM TRAFFIC DATA

Appendix A described the techniques used to gather the data in the Banfield HOV Lanes Monitoring Program. Appendix B is a summary of the information gathered and the figures that were used to arrive at the conclusions in the main body of this report.

Page	Table Number	Description
B-2	B-1	Banfield Freeway Lanes Counts at 47th Avenue
B-4	B-2	Banfield Freeway Ramp Counts (Westbound)
B-10	B-3	Banfield Freeway Ramp Counts (Eastbound)
B-22	B-4	Arterial Street Counts Westbound (Yearly)
B-24	B-5	Arterial Street Counts Westbound (By Time)
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B-28	B-7	Arterial Street Counts Eastbound (By Time)
B-30	B-8	Banfield Freeway Speed Runs
B-32	B-9	Arterial Street Speed Runs
B-40	B-10	Banfield Freeway Occupancy Rates
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B-44	B-12	Minnesota Freeway Occupancy Rates
B-46	B-13	Banfield and Arterial Truck Counts Westbound
B-48	B-14	Banfield and Arterial Truck Counts Eastbound

TABLE B-1 BANFIELD FREEWAY

WESTBOUND TIME	YEAR	JANUARY HOV	JANUARY Non-HOV	FEBRUARY HOV	FEBRUARY Non-HOV	MARCH HOV	MARCH Non-HOV	APRIL HOV	APRIL Non-HOV	MAY HOV	MAY Non-HOV
6:30-7:00	1975										
	1976	58	1443	48	1576	63	1513	47	1552	31	1614
	1977	53	1893	57	1712	50	1828	57	1826	44	1818
7:00-7:30	1975										
	1976	114	1617	102	1895	92	2012	110	1712	91	1863
	1977	101	2208	91	1910	103	2207	86	2062	80	2022
7:30-8:00	1975										
	1976	125	1634	149	1882	104	1788	144	1557	103	1970
	1977	102	2072	105	1927	107	1915	95	1943	81	1754
8:00-8:30	1975										
	1976	77	1505	52	1585	48	1518	80	1665	52	1568
	1977	53	1735	57	1796	65	1645	40	1665	63	1608
EASTBOUND											
4:00-4:30	1975										
	1976	108	1533	89	1883	118	1782	83	1797	112	1637
	1977	106	2177			108	1810	117	1732	129	1933
4:30-5:00	1975										
	1976	134	1529	113	1751	148	1806	100	1938	115	1654
	1977	104	1927	103	1807	114	1859	116	1856	113	1906
5:00-5:30	1975										
	1976	143	1578	123	1715	142	1822	115	1864	121	1808
	1977	106	1926	109	1830	123	1904	110	1790	138	2002
5:30-6:00	1975										
	1976	104	1347	72	1586	76	1414	96	1728	100	1770
	1977	79	1892			98	1768	80	1722	92	1749

LANE COUNTS AT 47TH AVENUE

See Appendix A, Task A-1, pages A-1 through A-14, for procedures used to obtain figures

JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV	HOV	Non-HOV
	1710										1581		1271
44	1707	45	1714	37	1774	41	1775	46	1637	52	1704	54	1542
55	1884												
	2025										1795	108	1686
80	1926	83	1873	77	1905	87	1928	90	1714	84	1958	69	1844
102	1924												
	1964										1740	88	1615
105	1866	97	1911	86	1793	99	2062	82	1656	100	1859	70	1731
96	1828												
	1829										1554		1523
54	1674	53	1659	52	1600	46	1856	39	1423	45	1651	41	1506
73	1689												
	1738										1628		1720
111	1723	137	1724	142	1714	87	1851	96	1788	111	1851	139	2083
141	1715												
	1814												
139	1767	145	1741	139	1747	87	1842	111	2007	96	1836	136	1905
141	1717												
	1787												
141	1637	129	1731	143	1735	113	1808	122	2004	124	1941	126	1757
142	1837												
	1733												
105	1512	101	1769	154	1618	105	1799	94	1851	113	1870	129	1808
126	1760												

TABLE B-2 BANFIELD FREEWAY

	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
82nd Ave. (ON)						
AWD	1975					
	1976	15,782	15,849	16,886	16,800	17,134
	1977	16,295	16,704	16,811	16,966	17,312
58th Ave. (ON)						
AWD	1975					
	1976	7,745	8,169	8,757	9,011	9,023
	1977	8,991	9,159	9,013	9,045	
42nd Ave. (OFF)						
AWD	1975					
	1976	3,162	3,309	3,451	3,567	3,475
	1977	3,380		3,643	3,694	3,544
37th Ave. (ON)						
AWD	1975					
	1976	9,589	9,501	9,831	9,918	9,930
	1977	9,625	9,643	9,401	9,547	9,639
33rd Ave. (ON)						
AWD	1975					
	1976	3,859	3,781	3,908	4,017	3,986
	1977	4,035	4,083	3,920	4,214	3,721
Holliday St. (OFF)						
AWD	1975					
	1976	6,227	6,103	6,817	6,640	6,444
	1977	7,538	6,683	6,751	6,524	6,919

RAMP COUNTS BY TIME

TIME						
82nd Ave. (ON)						
6:00-7:00	1975					
	1976	930	898	912	999	997
	1977	927	944	911	984	1027
58th Ave. (ON)						
6:00-7:00	1975					
	1976	495	525	545	627	635
	1977	633	604	611	662	728
42nd Ave. (OFF)						
6:00-7:00	1975					
	1976	89	89	102	104	118
	1977	109		105	108	116

RAMP COUNTS (WESTBOUND)

See Appendix A, Task A-1, pages A-1 through A-14 for counting procedures.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	17,062		15,804	15,432	15,730	16,670
17,105	17,197	17,239		16,371	16,413	17,655
	9,165		10,803	8,248	8,453	8,684
8,922	8,846	8,759	8,896	8,924	8,989	9,407
	3,810		3,740	3,378	3,488	3,232
3,536		3,658	3,498	3,420	3,406	3,400
	9,821		9,727	9,287	9,586	9,970
9,834	9,672	9,575	9,769	9,855	9,947	10,086
	4,047		3,990	3,900	3,871	3,800
3,975	3,998	3,902	3,980	3,831	4,081	4,068
	7,313		5,911		6,321	7,925
7,065	7,555	7,097	6,617	6,939	6,581	7,360
	1,018		932	892	906	917
995	998	960		968		
	652		711	590	577	532
532	580	593	629	652	620	636
	104		121	97	107	91
115		92	101	98	95	94

RAMP COUNTS WESTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
37th Ave. (ON)						
6:00-7:00	1975					
	1976	457	424	434	495	379
	1977	414	429	408	447	438
33rd Ave. (ON)						
6:00-7:00	1975					
	1976	168	168	168	162	166
	1977	167	179	104	190	157
Holliday St. (OFF)						
6:00-7:00	1975					
	1976	264	290	293	322	312
	1977	343	321	315	332	376
82nd Ave. (ON)						
7:00-8:00	1975					
	1976	1320	1300	1312	1300	1206
	1977	1084	1138	1134	1152	1124
58th Ave. (ON)						
7:00-8:00	1975					
	1976	667	809	852	898	906
	1977	929	914	916	913	942
42nd Ave. (OFF)						
7:00-8:00	1975					
	1976	145	155	155	157	141
	1977	112		139	126	147
37th Ave. (ON)						
7:00-8:00	1975					
	1976	1067	1051	1025	1071	1124
	1977	1051	1106	954	1092	1091
33rd Ave. (ON)						
7:00-8:00	1975					
	1976	372	370	361	381	373
	1977	378	402	426	270	414
Holliday St. (OFF)						
7:00-8:00	1975					
	1976	554	593	629	659	564
	1977	672	627	612	635	629

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
483	435 494	464	419 453	421 449	400 459	404 418
174	180 165	143	169 160	176 152	161 178	151 167
346	299 998	960	228	968	251 933	263 932
1,146	1,223 1,150	1,228	1,095	946 1,036	975 1,044	1,009 1,071
859	939 818	867	959 888	881 822	839 908	823 879
163	157	155	149 142	114 128	136 114	116 113
1,053	435 995	957	419 1,106	421 1,163	400 1,147	404 1,088
363	372 358	341	373 371	397 383	379 399	340 378
346	617 603	617	541 589	600	501 525	526 503

RAMP COUNTS WESTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
82nd Ave. (ON)						
8:00-9:00	1975					
	1976	1067	1103	1126	1203	1127
	1977	993	1076	1030	1139	1077
58th Ave. (ON)						
8:00-9:00	1975					
	1976	566	622	633	693	677
	1977	701	716	669	721	722
42nd Ave. (OFF)						
8:00-9:00	1975					
	1976	215	252	253	275	251
	1977	242		252	244	268
37th Ave. (ON)						
8:00-9:00	1975					
	1976	837	799	797	832	842
	1977	863	818	722	800	797
33rd Ave. (ON)						
8:00-9:00	1975					
	1976	346	333	327	378	345
	1977	381	386	380	393	345
Holliday St. (OFF)						
8:00-9:00	1975					
	1976	477	490	535	513	500
	1977	594	555	508	554	563

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1,089	1,024 1,066	1,069	1,039	1,042 1,054	1,052 1,057	992 1,057
692	658 638	658	755 672	643 678	639 670	612 667
250	284	254	282 248	240 245	233 238	203 230
756	743 762	731	786 782	797 822	841 813	779 775
304	322 314	317	334 365	374 350	379 375	321 358
508	515 504	503	543 502	473	459 480	504 477

TABLE B-3 BANFIELD FREEWAY

	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
3rd Ave. (Union - ON)						
AWD	1975					
	1976	2,534	2,388	2,727	2,619	2,725
	1977	2,695	2,645	2,736	2,713	2,846
Grand Ave. (ON)						
AWD	1975					
	1976	2,774	2,767	2,983	2,942	3,096
	1977	2,857	2,987	3,097	3,015	3,127
16th Ave. (ON)						
AWD	1975					
	1976	4,518	4,529	4,931	4,943	4,974
	1977	4,851	4,838	4,962	5,033	5,104
33rd Ave. (OFF)						
AWD	1975					
	1976	5,255	5,406	5,686	5,686	5,736
	1977	5,761	5,759	5,678	5,776	5,925
39th Ave. (OFF - SOUTH)						
AWD	1975					
	1976	2,408	2,427	2,553	2,535	2,769
	1977	2,469	2,455	2,467	2,533	2,552
39th Ave. (OFF - NORTH)						
AWD	1975					
	1976	4,680	4,619	4,792	4,756	4,821
	1977	4,615	4,678	4,505	4,631	4,664
41st Ave. (ON)						
AWD	1975					
	1976	3,300		3,576	3,518	3,713
	1977	3,433	3,451	3,609	3,625	3,593
57th Ave. (OFF)						
AWD	1975					
	1976	4,846	5,038	5,142	5,294	5,333
	1977	5.208	5,155	5,036	5,220	5,258

RAMP COUNTS (EASTBOUND)

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
2,731	2,793 2,781	2,729	2,452 2,694	2,446 2,744	2,437 2,739	2,645 2,893
3,207	3,126 3,175	3,136	2,936 3,038	2,830 2,944	2,806 2,949	2,801 2,995
5,003	5,057 5,271	5,173	4,605 4,930	4,501 4,977	4,571 5,161	5,783 6,111
5,547	5,543 5,763	5,700	5,542 5,578	5,477 5,639	5,324 5,693	5,344 5,757
2,515	2,803 2,572	2,516	2,763 2,565	2,597 2,595	2,578 2,639	2,454 2,469
4,714	4,985 4,588	4,572	4,863 4,699	4,777 4,719	4,548 4,608	4,577 4,755
3,727	3,776	3,748 3,797	4,411 3,539	3,453 3,504	3,353 3,502	3,446 3,547
5,191	4,949 5,038	5,001	4,756 5,130	4,850 5,231	4,653 5,253	4,877 5,314

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
60th Ave. (ON)						
AWD	1975					
	1976	1,281	1,306	1,318	1,379	1,417
	1977	1,423	1,434	1,512	1,537	1,520
68th Ave. (OFF)						
AWD	1975					
	1976	3,528	2,877	2,804	3,735	3,707
	1977	3,663		3,598	4,066	4,211
82nd Ave. (OFF)						
AWD	1975					
	1976	6,201	6,314	7,227	6,914	7,101
	1977	6,833	6,809	7,091	7,225	7,534

RAMP COUNTS BY TIME

3rd Ave. (Union ON)						
3:00-4:00	1975					
	1976	236	210	229	241	231
	1977	255	238	233	221	251
Grand Ave. (ON)						
3:00-4:00	1975					
	1976	219	215	236	230	234
	1977	230	234	251	249	236
16th Ave. (ON)						
3:00-4:00	1975					
	1976	415	424	436	447	456
	1977	458	447	467	478	475
33rd Ave. (OFF)						
3:00-4:00	1975					
	1976	377	426	404	384	413
	1977	436	414	399	425	424
39th Ave. S (OFF)						
3:00-4:00	1975					
	1976	185	192	192	223	260
	1977	203	197	206	193	206

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1,455	1,009 1,457	1,408	1,418	1,227 1,391	1,233 1,391	1,264 1,437
3,517	3,478 3,383	3,364	3,202 3,638	3,359 3,624	3,300	3,104 3,766
7,628	6,544 7,382	7,460	6,629 7,105	6,310 7,173	6,173 7,002	6,794 7,542
227	238 248	231	199 230	213 238	195 234	230 246
239	238 254	238	244 246	233 228	211 234	204 245
431	454 474	496	410 442	409 451	366 492	487 552
410	395 407	390	387 419	424 401	388 413	390 380
200	254 210	210	250 224	221 216	198 215	209 204

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
39th Ave. N (OFF)						
3:00-4:00	1975					
	1976	360	363	352	383	375
	1977	375	353	380	344	390
41st Ave. (ON)						
3:00-4:00	1975					
	1976	225	247	256	266	264
	1977	248	233	234	234	249
57th Ave. (OFF)						
3:00-4:00	1975					
	1976	372	404	431	421	428
	1977	429	394	374	430	398
60th Ave. (ON)						
3:00-4:00	1975					
	1976	100	116	104	115	114
	1977	104	112	100	106	113
68th Ave. (OFF)						
3:00-4:00	1975					
	1976	307	260	236	331	317
	1977	341		332	346	387
82nd Ave. (OFF)						
3:00-4:00	1975					
	1976	472	500	512	499	489
	1977	500	498	527	490	553
3rd Ave. (Union ON)						
4:00-5:00	1975					
	1976	265	244	281	270	272
	1977	262	256	260	270	279
Grand Ave. (ON)						
4:00-5:00	1975					
	1976	199	198	226	218	229
	1977	216	199	221	222	216

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
361	374 356	349	391 371	384 370	341 369	351 385
253	249 257	252 245	262 239	246 232	245 226	240 243
409	371 406	385	344 392	386 431	302 426	399 451
99	75 113	88	45 114	100 92	95 108	93 109
311	326 321	315	290 317	299 319	267	254 314
515	501 504	507	445 502	443 469	434 501	429 517
262	265 249	253	199 243	235 265	206 262	239 287
209	204 209	214	185 204	179 214	174 205	177 202

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
16th Ave. (ON)						
4:00-5:00	1975					
	1976	542	449	588	567	546
	1977	575	563	588	599	589
33rd Ave. (OFF)						
4:00-5:00	1975					
	1976	391	410	429	406	463
	1977	412	442	446	427	468
39th Ave. (OFF-SOUTH						
4:00-5:00	1975					
	1976	249	236	275	238	299
	1977	260	258	267	275	273
39th (OFF-NORTH)						
4:00-5:00	1975					
	1976	455	452	468	453	504
	1977	485	493	502	443	521
41st Ave. (ON)						
4:00-5:00	1975					
	1976	233	259	248	242	224
	1977	231	223	225	244	228
57th Ave. (OFF)						
4:00-5:00	1975					
	1976	405	413	374	400	319
	1977	420	357	404	386	357
60th Ave. (ON)						
4:00-5:00	1975					
	1976	111	120	130	125	133
	1977	124	132	120	135	136

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
568	542 572	594	474 538	504 556	476 540	571 623
395	388 404	434	434 387	394 415	374 411	369 401
274	303 287	276	332 245	328 280	362 297	221 287
493	455 463	461	509 465	489 487	452 443	414 469
236	273 218	275 238	351 233	240 214	189 217	222 215
333	323 341	357	267 381	288 360	223 339	352 357
122	94 126	113	52 127	108 128	113 134	109 116

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
68th Ave. (OFF)						
4:00-5:00	1975				330	287
	1976	327	259	249	336	349
	1977	317		306		
82nd Ave. (OFF)						
4:00-5:00	1975				444	443
	1976	426	439	468	457	469
	1977	456	424	445		
3rd Ave. (Union - ON)						
5:00-6:00	1975				220	233
	1976	232	231	244	253	258
	1977	260	247	251		
Grand Ave. (ON)						
5:00-6:00	1975				212	198
	1976	198	202	216	222	216
	1977	216	199	221		
16th Ave. (ON)						
5:00-6:00	1975				469	461
	1976	478	444	479	446	485
	1977	469	443	468		
33rd Ave. (OFF)						
5:00-6:00	1975				446	462
	1976	395	420	434	443	450
	1977	463	450	458		
39th Ave. (OFF-SOUTH)						
5:00-6:00	1975				253	279
	1976	234	240	256	262	245
	1977	238	237	243		
39th Ave. (OFF-NORTH)						
5:00-6:00	1975				453	504
	1976	455	452	468	478	484
	1977	461	483	399		

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
262	263 285	288	211 289	256 281	193	248 300
465	432 456	477	389 479	380 460	338 432	477 428
243	223 232	234	212 246	205 249	184 228	198 242
199	193 198	198	167 188	185 204	160 185	169 180
470	474 472	487	431 477	447 476	346 433	492 501
373	399 421	411	358 449	402 458	390 446	337 455
242	284 230	259	302 221	284 268	233 269	195 247
442	508 433	478	498 485	506 494	390 476	344 464

RAMP COUNTS EASTBOUND cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
41st Ave. (ON)						
5:00-6:00	1975			311	314	317
	1976	280		266	288	290
	1977	274	260			
57th Ave. (OFF)						
5:00-6:00	1975					
	1976	308	317	326	311	287
	1977	335	292	329	324	332
60th Ave. (ON)						
5:00-6:00	1975					
	1976	111	107	127	135	136
	1977	134	131	136	144	144
68th Ave. (OFF)						
5:00-6:00	1975					
	1976	261	213	217	267	263
	1977	267		278	316	305
82nd Ave. (OFF)						
5:00-6:00	1975					
	1976	357	361	404	373	360
	1977	368	341	374	376	419

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	344	327	365	309	270	298
300	296	275	287	278	251	253
	258		225	271	250	278
287	277	268	309	303	303	315
	89	60	125	130	134	
133	147	129	124	121	124	130
	242		200	268	212	222
255	233	239	262	261		259
	352		321	330	300	332
387	388	376	400	359	378	371

TABLE B-4. ARTERIAL STREET

	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
AWD						
East Burnside @21st						
Street Counts	1975					
" "	1976		9,553	9,271	9,168	9,297
" "	1977	8,128	8,811	8,406	9,009	
AWD						
N.E. Sandy @20th						
Street Counts	1975					
" "	1976	9,326	9,512	9,412	9,983	9,861
" "	1977	10,146	9,259	9,105	9,495	9,156
AWD						
N.E. Broadway @21st						
Street Counts	1975					
" "	1976	16,611	14,750	15,863	16,005	15,489
" "	1977	14,321	14,529	14,942	15,228	14,634
AWD						
N.E. Sandy @41st						
Street Counts	1975					
" "	1976	13,328	13,166	13,537	13,502	13,220
" "	1977	12,436	12,602	12,654	13,393	12,854

COUNTS WESTBOUND (YEARLY)

See Appendix A, Task A-1, pages A-1 through A-14 for counting procedures used.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
8,775 9,021	8,636	8,764	9,163	8,944	9,302 8,892	9,011
9,717 9,444	9,587	9,768		9,517	9,871 9,576	10,157 9,815
15,526 14,530	14,659	14,615	15,342 14,803	14,929	14,790 14,943	15,590
13,024	12,923		13,278 13,217	12,794	12,662 12,573	14,067 12,536

TABLE B-5 ARTERIAL STREET

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
6:00-7:00						
East Burnside	1975					
@ 21st	1976		397	409	426	412
	1977	437	439	415	450	
N.E. Sandy	1975					
@ 20th	1976	325	323	403	341	321
	1977	355	338	338	376	295
N.E. Broadway	1975					
@ 21st	1976	404	404	453	454	429
	1977	417	417	418	441	383
N.E. Sandy	1975					
@ 41st	1976	501	485	624	548	553
	1977	532	513	588	547	493
7:00-8:00						
East Burnside	1975					
@ 21st	1976		1,280	1,199	1,143	1,197
	1977	1,108	1,191	1,164	1,209	NA
N.E. Sandy	1975					
@ 20th	1976	962	975	1,023	1,009	1,006
	1977	1,062	1,012	1,076	1,082	973
N.E. Broadway	1975					
@ 21st	1976	1,413	1,251	1,307	1,346	1,304
	1977	1,250	1,284	1,425	1,371	1,246
N.E. Sandy	1975					
@ 41st	1976	1,039	943	1,014	1,006	1,012
	1977	984	1,004	1,021	1,046	1,004
8:00-9:00						
East Burnside	1975					
@ 21st	1976		875	810	755	793
	1977	747	765	759	748	NA
N.E. Sandy	1975					
@ 20th	1976	755	783	849	795	793
	1977	952	739	740	762	818
N.E. Broadway	1975					
@ 21st	1976	1,162	1,003	1,393	1,062	1,038
	1977	1,132	1,050	1,088	1,027	1,022
N.E. Sandy	1975					
@ 41st	1976	894	873	849	875	883
	1977	843	876	844	934	874

COUNTS WESTBOUND (BY TIME)

See Appendix A, Task A-1, pages A-1 through A-14 for procedures used.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
389 432	396	406	430	418	415 417	429
330 326	318	295		308	356 362	374 337
428 393	375	389	404 401	395	413 448	422
526	533		601 553	539	492 576	513 535
729 636	708	663	817	786	836 786	829
779 809	742	757		794	803 770	877 816
1,036	941	895	1,098 1,024	1,052	1,044 1,101	1,116
864	850		858 879	854	860 827	926 831
1,099 1,117	1,092	1,081	1,205	1,223	1,193 1,211	1,212
1,017 1,050	992	947		1,001	1,122 1,078	1,182 1,065
1,301 1,251	1,217	1,227	1,259 1,275	1,332	1,358 1,404	1,387
950	995		1,028 999	1,027	965 1,026	1,060 981

TABLE B-6 ARTERIAL STREET

	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
AWD						
E. Burnside @21st						
Street Counts	1975					
" "	1976	8,487	8,652	8,666	8,983	8,944
" "	1977	7,793	8,700	8,598	8,775	
AWD						
N.E. Sandy @20th						
Street Counts	1975					
" "	1976	9,326	9,677	9,934	9,695	9,610
" "	1977	8,649	9,064	9,291	9,466	9,296
AWD						
N.E. Weidler @21st						
Street Counts	1975					
" "	1976		10,202	10,888	11,154	11,755
" "	1977	10,082	11,305	10,966	11,396	10,354
AWD						
N.E. Sandy @41st						
Street Counts	1975					
" "	1976	12,147	12,456	12,331	12,810	12,262
" "	1977		11,875	12,106	12,567	12,342

COUNTS EASTBOUND (YEARLY)

See Appendix A, Task A-1, pages A-1 through A-14 for counting procedures used.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
JUNE						
8,388 8,823	8,550	8,595	9,797 8,976	8,713	9,594 8,686	8,759 8,766
10,000 9,525	8,819	9,063	9,143 9,208	9,075	9,468 8,979	9,213
10,235 10,170	10,644	10,711	11,697	11,296	11,098	11,716
12,948	13,512		11,347 12,686	11,941	12,975 11,752	13,802 12,294

TABLE B-7 ARTERIAL STREET

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
3:00-4:00						
E. Burnside @ 21st	1975					
	1976	757	758	742	778	781
	1977	738	777	742	759	
N.E. Sandy @ 20th	1975					
	1976	775	827	863	788	807
	1977	756	766	792	801	794
N.E. Weidler @ 21st	1975					
	1976		877	961	962	994
	1977	897	965	882	950	849
N.E. Sandy @ 41st	1975					
	1976	943	962	962	996	964
	1977		948	957	951	973
4:00-5:00						
E. Burnside @ 21st	1975					
	1976	1,123	1,086	1,089	1,153	1,143
	1977	1,031	1,124	1,116	1,124	
N.E. Sandy @ 20th	1975					
	1976	1,158	1,219	1,140	1,203	1,199
	1977	1,129	1,118	1,200	1,171	1,169
N.E. Weidler @ 21st	1975					
	1976		1,203	1,308	1,346	1,370
	1977	1,220	1,360	1,321	1,308	1,182
N.E. Sandy @ 41st	1975					
	1976	1,144	1,171	1,166	1,245	1,207
	1977		1,184	1,191	1,219	1,206
5:00-6:00						
E. Burnside @ 21st	1975					
	1976	1,072	1,053	1,072	1,070	1,048
	1977	1,076	1,114	1,100	1,066	
N.E. Sandy @ 21st	1975					
	1976	1,144	1,183	1,170	1,183	1,176
	1977	1,076	1,114	1,100	1,066	
N.E. Weidler @ 21st	1975					
	1976		1,191	1,164	1,289	1,241
	1977	1,190	1,293	1,283	1,260	1,215
N.E. Sandy @ 41st	1975					
	1976	1,190	1,199	1,170	1,224	1,175
	1977		1,119	1,224	1,189	1,251

COUNTS EASTBOUND (BY TIME)

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMEER	DECEMBER
			708		832	767
720	689	722	743	734	740	763
768						
			734		845	
838	702	729	773	775	828	816
807						
832	870	906	975	972	1,011	1,018
855						
			840		1,081	1,134
1,022	998		967	924	988	1,036
1,057						
			1,147		1,249	1,197
1,079	1,060	1,105	1,163	1,103	1,154	1,169
1,134						
			1,140		1,213	
1,283	1,066	1,139	1,129	1,104	1,178	1,185
1,168						
1,215	1,275	1,292	1,355	1,348	1,355	1,426
1,162						
			1,055		1,300	1,307
1,244	1,175		1,224	1,119	1,185	1,287
			1,157		1,182	1,097
1,041	1,012	988	1,049	1,116	1,094	1,091
1,221						
			1,232		1,205	
1,238	1,039	1,092	1,110	1,073	1,005	1,140
1,385						
1,148	1,206	1,211	1,269	1,326	1,285	1,311
1,208						
			1,114		1,305	1,286
1,306	1,168		1,189	1,154	1,161	1,177
1,392						

TABLE B-8 BANFIELD FREEWAY

TIME	YEAR	JANUARY HOV	JANUARY ALL LANES	FEBRUARY HOV	FEBRUARY ALL LANES	MARCH HOV	MARCH ALL LANES	APRIL HOV	APRIL ALL LANES	MAY HOV	MAY ALL LANES	
6:30-7:00	1975						45.8		47.8		49.3	
	1976	48.7	47.9	50.5	46.2	54.0	49.0	56.0	49.8		50.1	
	1977	46.8		48.6		49.7		48.6		49.3		
7:00-7:30	1975						40.9		39.7		44.6	
	1976	47.7	44.4	50.0	43.1	51.3	45.8	52.7	47.3	50.0	41.0	
	1977	48.4	33.7	48.4	38.7	52.7	37.3	52.9	43.0	53.0	40.6	
7:30-8:00	1975						29.3		30.0		28.5	
	1976	49.0	41.6	47.3	30.9	47.7	30.2	49.5	32.9	36.8	30.4	
	1977	44.2	26.6	49.6	30.9	44.9	28.7	51.4	27.7	49.2	32.2	
8:00-8:30	1975						26.4		42.0		44.2	
	1976	49.3	46.1	51.7	42.9	52.3	47.5	49.0	47.6	54.0	48.6	
	1977	48.7	43.0	54.5	48.4	49.3	42.0	51.3	38.6	51.7	39.3	
4:00-4:30	1975						41.6		39.4		41.8	
	1976	49.5	43.8	52.3	47.8	46.1	42.8		44.0		31.0	
	1977	40.0	41.1	43.0	36.4		40.9		39.9		35.0	
4:30-5:00	1975						31.1		32.3		35.0	
	1976	48.0	38.3	48.0	41.5	37.5	38.5	48.5	39.0	32.0	29.7	
	1977	41.3	37.8	37.8	45.6	34.9	35.7	39.2	34.7	41.0	35.4	
5:00-5:30	1975						24.4		26.9		28.3	
	1976	44.5	33.0	43.0	29.6	32.0	35.3	45.5	36.8	30.5	24.1	
	1977	39.3	38.1	27.7	35.1	38.1	29.8	30.7	27.9	35.1	34.1	
6:00-6:30	1975						33.2		41.4		40.9	
	1976	41.5	43.2	44.0	34.3	51.6	43.5		47.1		38.6	
	1977		45.3		46.0		41.2		41.4		43.6	

WESTBOUND

EASTBOUND

SPEED RUNS

See Appendix A, Task A-6, pages A-39 through A-47 for procedures used to obtain numbers.

	JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	ALL	HOV LANES	ALL	HOV LANES	ALL	HOV LANES	ALL	HOV LANES	ALL	HOV LANES	ALL	HOV LANES	ALL	HOV LANES
		44.4		49.4		47.1		46.7		42.5		47.0		46.5
	49.2	49.6		49.3		49.9		41.3		42.9		45.4	50.8	45.2
		40.9		43.8		44.9		38.7		29.8		34.7		38.6
	52.1	41.9	53.1	37.2	51.8	44.2	50.4	37.8	48.7	31.9	48.1	35.1	43.8	38.8
	52.7	42.0											49.2	
		33.1		34.2		37.6		26.0		24.4		39.6		38.2
	50.3	37.5	51.1	36.2	50.1	36.7	42.9	27.2	48.6	33.9	52.1	27.9	47.1	32.3
	50.8	40.1											50.3	
		41.2		46.6		45.6		39.0		41.2		41.5		48.9
	53.3	44.5	54.3	50.0	53.3	48.7	52.7	38.4	55.0	48.6	53.7	46.8	51.4	46.0
	52.7	47.3											53.0	
		34.6		39.8		29.9		31.7		28.8		22.4		41.8
	34.3	26.8	42.0	37.7	34.6	35.4	43.5	42.8	30.0	36.5	41.0	33.6	49.0	34.3
	36.5	30.6											31.0	
		25.4		34.6		25.1		31.3		26.3		18.3		42.2
	31.4	29.9	38.8	39.4	30.0	30.4	45.3	41.9	38.1	31.5	35.6	27.9	44.7	26.6
	30.0	29.7											30.0	
		24.3		26.1		26.5		33.7		29.5		19.0		43.5
	30.3	28.9	43.3	40.8	32.8	27.3	41.8	38.5	32.8	28.2	26.2	25.2	44.8	27.6
		35.2											30.3	
		39.5		43.8		39.4		37.8		33.2		23.2	49.0	44.9
		46.9		47.7		42.1		47.8		38.9		39.0		39.9
		35.2												

TABLE B-9 ARTERIAL

WESTBOUND

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
7:00-7:30 N.E. Sandy Blvd. - 47th to Burnside (12th)						
Speed Runs	1975					
" "	1976	24.5	19.5	20.5	21.5	21.0
" "	1977	21.0	21.5	23.0	24.0	24.0
7:00-7:30 N.E. Broadway 33rd to 12th						
Speed Runs	1975					
" "	1976	29.7	31.3	30.7	29.7	29.0
" "	1977	30.3	27.3	29.7	28.5	30.0
7:00-7:30 East Burnside 32nd to 12th (Sandy)						
Speed Runs	1975					
" "	1976	16.0	21.0	15.7	15.7	17.3
" "	1977	18.7	15.9	22.0	16.1	15.4
7:30-8:00 N.E. Sandy Blvd. - 47th to Burnside (12th)						
Speed Runs	1975					
" "	1976	17.5	17.0	17.0	16.0	19.0
" "	1977	21.0	20.5	19.5	17.0	16.0
7:30-8:00 N.E. Broadway 33rd to 12th						
Speed Runs	1975					
" "	1976	24.7	28.0	26.3	29.0	28.7
" "	1977	29.0	27.0	27.7	26.3	27.5
7:30-8:00 East Burnside 32nd to 12th (Sandy)						
Speed Runs	1975					
" "	1976	13.9	15.8	14.6	18.6	12.7
" "	1977	29.0	27.8	27.7	26.3	27.5

STREET SPEED RUNS

See Appendix A, Task A-7, pages A-47 through A-58 for procedures used to obtain speed numbers.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
19.0 19.0	20.0	23.5	20.5	24.5	18.0 16.0	22.5 24.5
29.3 27.5	30.0	29.0	29.7	30.6	29.6 29.0	29.3 29.3
17.4 19.0	19.1	15.8	17.2	20.0	15.2 21.1	18.4 18.3
17.5 19.0	16.0	19.5	19.5	17.0	15.5 17.0	20.0 18.0
29.7 28.3	27.3	28.0	26.3	29.3	28.2 28.7	30.0 26.3
11.2 11.6	17.0	15.4	17.3	20.2	14.5 15.1	17.3 17.3

ARTERIAL STREET SPEED RUNS cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
8:00-8:30 N.E. Sandy Blvd. - 47th to Burnside (12th)						
Speed Runs	1975					
" "	1976	21.5	19.0	20.5	19.5	25.5
" "	1977	23.5	26.0	24.0	22.5	22.5
8:00-8:30 N.E. Broadway 33rd to 12th						
Speed Runs	1975					
" "	1976	29.0	30.7	29.7	29.7	29.5
" "	1977	29.0	27.5	28.0	28.7	28.2
8:00-8:30 East Burnside 32nd to 12th (Sandy)						
Speed Runs	1975					
" "	1976	16.0	20.1	17.0	20.4	18.3
" "	1977	17.0	20.5	15.8	18.2	18.5

EASTBOUND

4:00-4:30 N.E Sandy Blvd. - Burnside (12th) to 47th Avenue						
Speed Runs	1975					
" "	1976	22.5	22.0	22.0	20.1	20.5
" "	1977	18.5	20.5	21.5	22.5	23.0
4:00-4:30 N.E. Broadway 12th - 33rd						
Speed Runs	1975					
" "	1976	22.7	22.3	26.0	24.3	20.7
" "	1977	23.0	21.5	18.7	18.3	21.5
4:00-4:30 East Burnside - 12th (Sandy) to 32nd						
Speed Runs	1975					
" "	1976	23.7	23.4	23.0	22.8	23.8
" "	1977	25.4	21.9	22.0	23.1	19.0

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
20.5 22.5	20.0	24.0	21.5	19.0	23.0 18.5	17.0 22.0
29.7 29.5	28.0	28.3	28.7	29.3	28.3 29.7	30.0 30.0
14.3 15.8	15.7	16.2	17.8	20.6	14.8 17.8	20.9 12.4
17.0 18.0	20.0	17.5	17.0	22.0	21.0 21.0	23.0 18.5
26.0 23.0	20.7	16.7	18.3	21.3	20.7 22.3	19.0 23.3
23.6 22.0	22.4	22.9	25.5	19.2	21.9 21.2	22.4 20.4

ARTERIAL STREET SPEED RUNS cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
4:30-5:00						
N.E. Sandy Blvd. - Burnside (12th) to 47th Avenue						
Speed Runs	1975					
" "	1976	20.0	18.5	20.0	17.0	18.0
" "	1977	16.0	15.5	19.5	18.5	14.0
4:30-5:00						
N. E. Broadway 12th - 33rd						
Speed Runs	1975					
" "	1976	20.0	22.0	23.0	15.3	19.3
" "	1977	21.0	18.3	*16.0	22.0	22.5
4:30-5:00						
East Burnside - 12th (Sandy) to 32nd						
Speed Runs	1975					
" "	1976	20.8	23.7	29.3	16.6	22.4
" "	1977	20.8	18.9	20.5	23.9	22.0
5:00-5:30						
N.E. Sandy Blvd. - Burnside (12th) to 47th Avenue						
Speed Runs	1975					
" "	1976	18.0	19.5	17.0	18.0	18.0
" "	1977	28.4	11.0	17.0	15.0	16.5
5:00-5:30						
N.E. Broadway 12th - 33rd						
Speed Runs	1975					
" "	1976	17.7	24.0	22.0	14.7	15.5
" "	1977	20.7	20.7	*12.0	20.7	14.0
5:00-5:30						
East Burnside - 12th (Sandy) to 32nd						
Speed Runs	1975					
" "	1976	19.6	20.2	20.4	14.2	23.1
" "	1977	18.4	18.1	18.9	11.9	18.6

* Accident

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
17.0 20.0	20.0	17.0	18.0	19.0	18.0 20.5	18.0 20.5
19.5 21.0	19.0	19.0	21.0	20.7	16.3 20.6	13.5 17.3
20.0 23.8	20.3	18.6	21.3	25.2	22.0 21.0	23.5 22.2
15.0 12.5	20.5	22.5	20.0	18.5	16.0 17.5	18.5 15.0
14.3 15.5	15.0	17.3	16.0	15.3	13.0 16.0	15.7 14.0
18.6 21.5	20.8	23.1	19.4	24.6	21.3 18.2	18.2 20.2

ARTERIAL STREETS SPEED RUNS cont'd

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
5:30-6:00						
N.E. Sandy Blvd. - Burnside						
(12th) to 47th Avenue						
Speed Runs	1975					
" "	1976	21.0	24.0	22.0	26.0	25.0
" "	1977	24.5	22.5	24.0	22.0	22.5
5:30-6:00						
N.E. Broadway						
12th - 33rd						
Speed Runs	1975					
" "	1976	24.0	24.0	24.7	21.5	24.3
" "	1977	23.7	22.5	22.0	24.5	22.0
5:30-6:00						
East Burnside - 12th						
(Sandy) to 32nd						
Speed Runs	1975					
" "	1976	26.1	23.5	22.6	25.1	25.0
" "	1977	27.3	23.8	25.4	21.5	25.6

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
19.0 29.0	21.5	19.0	22.0	23.0	20.5 22.0	24.5 21.0
23.3 22.0	23.0	24.0	20.0	25.3	16.0 23.0	21.3 22.7
23.2 25.3	25.9	23.8	26.1	21.1	23.3 23.2	24.2 22.6

TABLE B-10 BANFIELD FREEWAY

TIME	YEAR	JANUARY HOV	JANUARY ALL LANES	FEBRUARY HOV	FEBRUARY ALL LANES	MARCH HOV	MARCH ALL LANES	APRIL HOV	APRIL ALL LANES	MAY HOV	MAY ALL LANES
AM (WESTBOUND)											
6:30-7:00	1975										
	1976					2.29	1.20	2.11	1.18	2.47	1.20
	1977					2.33	1.20	2.10	1.21	2.12	1.17
7:00-7:30	1975								1.21		1.24
	1976			2.51	1.26	2.48	1.26	2.31	1.25	2.70	1.25
	1977			2.67	1.21	2.77	1.28	2.78	1.26	2.83	1.25
7:30-8:00	1975								1.23		1.24
	1976	2.56	1.27	2.42	1.26	2.29	1.26	2.19	1.26	2.62	1.26
	1977	2.59	1.27	2.73	1.22	2.72	1.26	2.76	1.27	2.88	1.28
8:00-8:30	1975										
	1976	1.93	1.24	2.35	1.23	2.13	1.21	2.34	1.23	2.65	1.25
	1977	2.49		2.66		2.73		2.77		2.83	
PM (EASTBOUND)											
4:00-4:30	1975										
	1976	2.64	1.33	2.69	1.36	2.65	1.31	2.51	1.29	2.51	1.29
	1977	2.45	1.31	2.68	1.30	2.63	1.33	2.63	1.31	2.56	1.29
4:30-5:00	1975								1.26		1.31
	1976		1.30	2.71	1.32	2.62	1.27	2.38	1.26	2.65	1.27
	1977		1.32	2.78	1.31	2.78	1.37	2.85	1.33	2.65	1.32
5:00-5:30	1975								1.27		1.30
	1976			2.66	1.36	2.68	1.32	2.54	1.30	2.70	1.33
	1977			2.78	1.32	2.79	1.36	2.85	1.33	2.76	1.32
5:30-6:00	1975										
	1976					2.58	1.28	2.27	1.27	2.54	1.25
	1977					2.53	1.30	2.56	1.30	2.55	1.26

OCCUPANCY RATES

See Appendix A, Task A-4, pages A-18 through A-26 for procedures used to obtain occupancy rates.

JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES	HOV	ALL LANES
2.42	1.20	2.55	1.20	2.87	1.20	2.50	1.19						
2.23	1.23												
	1.21		1.22		1.21		1.22				1.23		
2.73	1.28	2.75	1.27	2.87	1.25	2.77	1.25	2.77	1.24	2.74	1.27		
2.84	1.26												
	1.24		1.28		1.24		1.19		1.20		1.20		1.22
2.71	1.29	2.73	1.28	2.83	1.27	1.16	1.24	2.58	1.25	2.75	1.27	2.68	1.23
2.75	1.23												
									1.22		1.21		1.20
2.60	1.24	2.78	1.27	2.88	1.26	2.46	1.21	2.43	1.20	2.67	1.23	2.71	1.22
2.76	1.23												
											1.31		1.28
2.69	1.36	2.64	1.37	2.66	1.39	2.64	1.34	2.57	1.29	2.63	1.31	2.39	1.29
2.63	1.32												
	1.32		1.41		1.35		1.28		1.27		1.28		
2.77	1.34	2.70	1.35	2.73	1.38	2.81	1.34	2.66	1.29	2.68	1.25		
2.77	1.35												
	1.33		1.37		1.41		1.30		1.27				
2.79	1.37	2.72	1.35	2.77	1.44	2.80	1.36	2.85	1.35				
2.85													
2.64	1.37	2.71	1.38	2.65	1.41	2.65	1.34	2.56	1.32				
2.65	1.36												

TABLE B-11 SUNSET FREEWAY

TIME	YEAR	JANUARY ALL LANES	FEBRUARY ALL LANES	MARCH ALL LANES	APRIL ALL LANES	MAY ALL LANES
AM (EASTBOUND)						
6:30-7:00	1976			1.18	1.19	1.16
				1.20	1.15	1.17
7:00-7:30	1976			1.19	1.19	1.20
			1.21	1.21	1.20	1.16
7:30-8:00	1976			1.22	1.22	1.21
	1977	1.23	1.21	1.19	1.21	1.19
8:00-8:30	1976			1.18	1.20	1.16
	1977	1.20	1.20	1.19	1.19	1.20
PM (WESTBOUND)						
4:00-4:30	1976			1.23	1.25	1.21
	1977	1.22	1.27	1.20	1.26	1.25
4:30-5:00	1976			1.24	1.21	1.23
	1977	1.23	1.24	1.19	1.24	1.23
5:00-5:30				1.25	1.27	1.23
			1.27	1.26	1.25	1.23
5:30-6:00	1976			1.27	1.25	1.25
					1.27	1.26

OCCUPANCY COUNTS

See Appendix A, Task A-5, pages A-29 through A-39 for procedures used to obtain occupancy rates.

JUNE ALL LANES	JULY ALL LANES	AUGUST ALL LANES	SEPTEMBER ALL LANES	OCTOBER ALL LANES	NOVEMBER ALL LANES	DECEMBER ALL LANES
1.24 1.24	1.33	1.36	1.27	1.29	1.25	1.20
1.26 1.26	1.27	1.28	1.28	1.23	1.19	
1.28 1.26	1.30	1.28	1.30	1.25		
1.26 1.26	1.30	1.30	1.26	1.25		
1.20 1.17	1.20	1.17	1.15			
1.20 1.18	1.22	1.21	1.21	1.18	1.18	
1.20 1.20	1.25	1.21	1.22	1.27	1.22	1.19
1.20 1.17	1.20	1.21	1.19	1.16	1.18	1.17

TABLE B-12 MINNESOTA FREEWAY

TIME	YEAR	JANUARY ALL LANES	FEBRUARY ALL LANES	MARCH ALL LANES	APRIL ALL LANES	MAY ALL LANES
AM (SOUTHBOUND)						
6:30-7:00	1976			1.18	1.20	1.17
	1977	1.36	1.34	1.34	1.36	1.37
7:00-7:30	1976			1.19	1.23	1.21
	1977		1.19	1.21	1.20	1.21
7:30-8:00	1976			1.21	1.23	1.22
	1977	1.21	1.21	1.24	1.20	1.21
8:00-8:30	1976			1.21	1.26	1.27
	1977	1.21	1.21	1.25	1.19	1.23
PM (NORTHBOUND)						
4:00-4:30	1976			1.33	1.41	1.34
	1977	1.36	1.34	1.34	1.36	1.37
4:30-5:00	1976			1.37	1.45	1.28
	1977	1.30	1.35	1.32	1.39	1.33
5:00-5:30	1976			1.42	1.45	1.42
	1977		1.35	1.30	1.40	1.33
5:30-6:00	1976			1.36	1.47	1.48
	1977			1.40	1.42	1.39

(I-5) OCCUPANCY COUNTS

See Appendix A, page A-33 for special note on procedures used to obtain occupancy rates.

JUNE ALL LANES	JULY ALL LANES	AUGUST ALL LANES	SEPTEMBER ALL LANES	OCTOBER ALL LANES	NOVEMBER ALL LANES	DECEMBER ALL LANES
1.23 1.19	1.21	1.19	1.23	1.17	1.24	
1.23 1.20	1.21	1.19	1.23	1.17	1.24	
1.22 1.20	1.22	1.21	1.22	1.19	1.23	1.18
1.22 1.20	1.25	1.21	1.23	1.19	1.23	1.17
1.45 1.44	1.43	1.49	1.41	1.30	1.36	1.31
1.41 1.40	1.46	1.59	1.43	1.38	1.32	
1.44 1.42	1.52	1.58	1.45	1.40		
1.53 1.52	1.46	1.62	1.47	1.45		

TABLE B-13 BANFIELD AND ARTERIAL

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
6:30-7:00						
Banfield	1975					
	1976	28	30	28	30	31
	1977	38	34	40	52	42
Sandy	1975					
	1976	4	3	6	8	3
	1977	3	3	6	2	4
Burnside	1975					
	1976	5	4	4	3	9
	1977	8	6	5	5	4
7:00-7:30						
Banfield	1975					
	1976	33	28	27	29	29
	1977	26	26	34	38	34
Sandy	1975					
	1976	10	7	5	15	6
	1977	7	8	11	7	4
Burnside	1975					
	1976	17	22	13	9	10
	1977	12	13	12	15	13
7:30-8:00						
Banfield	1975					
	1976	37	43	33	37	56
	1977	45	42	48	47	53
Sandy	1975					
	1976	16	9	9	16	16
	1977	13	16	16	8	19
Burnside	1975					
	1976	8	10	7	11	11
	1977	14	9	7	9	13
8:00-8:30						
Banfield	1975					
	1976	59	62	62	76	58
	1977	77	76	66	64	80
Sandy	1975					
	1976	22	22	21	12	27
	1977	24	24	29	30	23
Burnside	1975					
	1976	11	10	11	15	15
	1977	14	25	17	6	13

STREETS TRUCK COUNTS WESTBOUND

See Appendix A, Task A-8, pages A-58 through A-62 for procedures.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
41 41	42	36	46	33	27 34	24 30
4 7	7	7	5	6	6 3	3 4
7 6	7	2	11	5	5 9	7 5
41 39	38	33	36	30	34 38	39 30
10 17	14	13	13	9	8 9	5 7
13 11	13	11	19	12	20 11	9 8
50	55	50	56	45	46 53	35 42
13 33	20	15	14	15	13 21	10 9
13 11	13	11	19	12	20 11	9 8
67 76	59	58	75	64	62 81	58 62
32 29	16	23	18	19	20 24	15 29
14 15	11	13	18	16	16 16	21 14

TABLE B-14 BANFIELD AND ARTERIAL

TIME	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY
4:00-4:30						
Banfield	1975					
	1976	51	51	51	58	67
	1977	59		56	71	69
Sandy	1975					
	1976	22	17	25		25
	1977	26	30	22	19	24
Burnside	1975					
	1976	14	0	8	8	23
	1977	9	9	10	13	11
4:30-5:00						
Banfield	1975					
	1976	31	39	40	36	35
	1977	39		40	47	39
Sandy	1975					
	1976	4	13	18		14
	1977	10	13	14	13	14
Burnside	1975					
	1976	8	4	12	7	10
	1977	7	6	7	7	6
5:00-5:30						
Banfield	1975					
	1976	37	43	33	37	56
	1977	45	42	48	47	53
Sandy	1975					
	1976	16	9	9	16	16
	1977	13	16	16	8	19
Burnside	1975					
	1976	8	10	7	11	11
	1977	14	9	7	9	13
5:30-6:00						
Banfield	1975					
	1976	20	22	31	35	43
	1977	34		30	44	38
Sandy	1975					
	1976	4	5	7		7
	1977	1	8	12	6	1
Burnside	1975					
	1976	11	10	11	15	15
	1977	14	25	17	6	13

STREETS TRUCK COUNTS EASTBOUND

See Appendix A, Task A-8, pages A-58 through A-62.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
					56	50
59	58	49	54	58	62	49
56						
					23	33
25	30	21	13	20	26	29
30						
					12	11
10	9	5	9	10	19	15
					38	31
48	39	50	44	50	55	31
47						
					17	16
14	21	19	17	23	21	18
20						
					12	17
12	8	8	6	6	8	13
14						
					35	29
38	36	38	42	34	34	22
38						
					13	14
8	7	15	15	13	14	12
13						
					9	6
10	8	7	9	4	5	11
17						
					23	33
40	33	41	57	38	37	24
33						
					8	5
6	12	7	9	16	7	9
10						
					5	5
6	7	3	5	1	11	5
7						

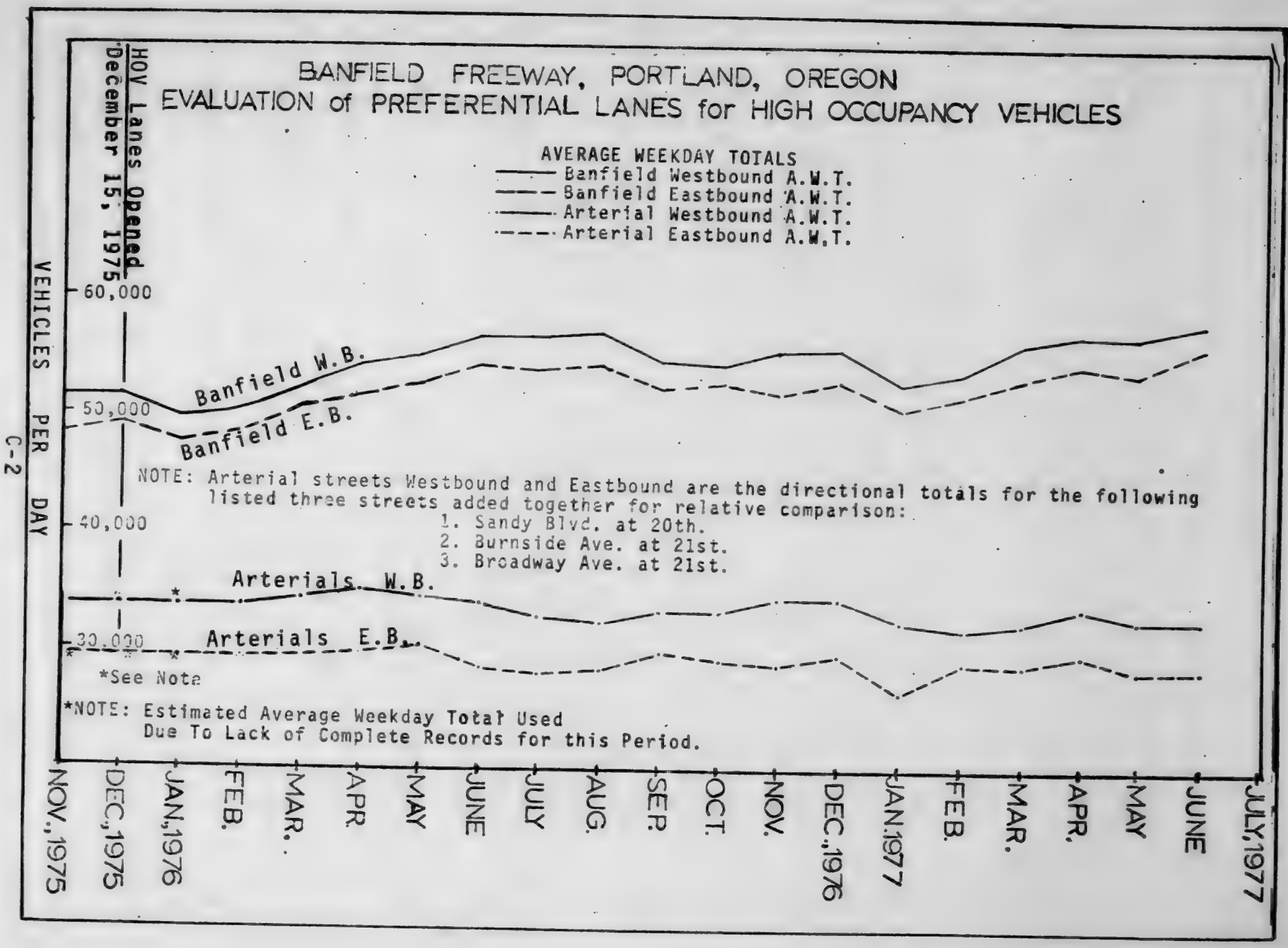
APPENDIX C

BANFIELD MONITORING TRAFFIC FLOW DATA GRAPHIC PRESENTATION

Appendix A described the techniques used to gather the data in the Banfield HOV Lane Monitoring Program. Appendix B summarized the information gathered and the figures that were used to arrive at the conclusions in the body of this report. Appendix C shows the information presented in Appendix B in graphic form for visual comparison of the trends developed on various aspects.

PAGE	DESCRIPTION
C-2	Banfield & Arterial Average Weekday Totals. See Appendix A, Task A-1, page A-1, for procedures used.
C-3	Banfield & Arterial Peak Hour Volumes. See Appendix A, Task A-2, page A-11 for procedures used.
C-4	Banfield & Arterial Peak Hour Vehicles and Persons. See Appendix A, Task A-3, page A-16, for procedures used.
C-5	Banfield & Sunset Change in Peak Hour Vehicle Occupancy Rates. See Appendix A, Task A-4, page A-18 and Task A-5, page A-23, for procedures used.
C-6	Banfield Change in Peak Hour HOV Lane Violators. See Appendix A, Task A-10, page A-64, for procedures used.
C-7	Banfield Peak Hour Average Speeds. See Appendix A, Task A-6, page A-39, for procedures used.
C-8	Banfield & Arterial Change in Peak Hour Truck Volumes. See Appendix A, Task A-2, page A-11 and Task A-8, page A-58, for procedures used.
C-9	Change in Area Gasoline Prices. See Appendix A, Task A-9, page A-62 for procedures used.
C-10	Bus Patronage Compared to Transit Fares. See Appendix A, Task B-1, page A-67, for procedures used.
C-11	Peak Hour Lane Usage by Carpool Vehicles. See Appendix A, Task A-11, page A-65, for procedures used.
C-12	Parking Rates in CBD. See Appendix A, Task B-3, page A-69, for procedures used.
C-13	Accident Rate on the Banfield. See Appendix A, Task C-1, page A-69, for procedures used.
C-14	Recorded Accidents per Month on the Banfield. Same as above.
C-15	Average Number of Vehicles per Accident on the Banfield. Same as above.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

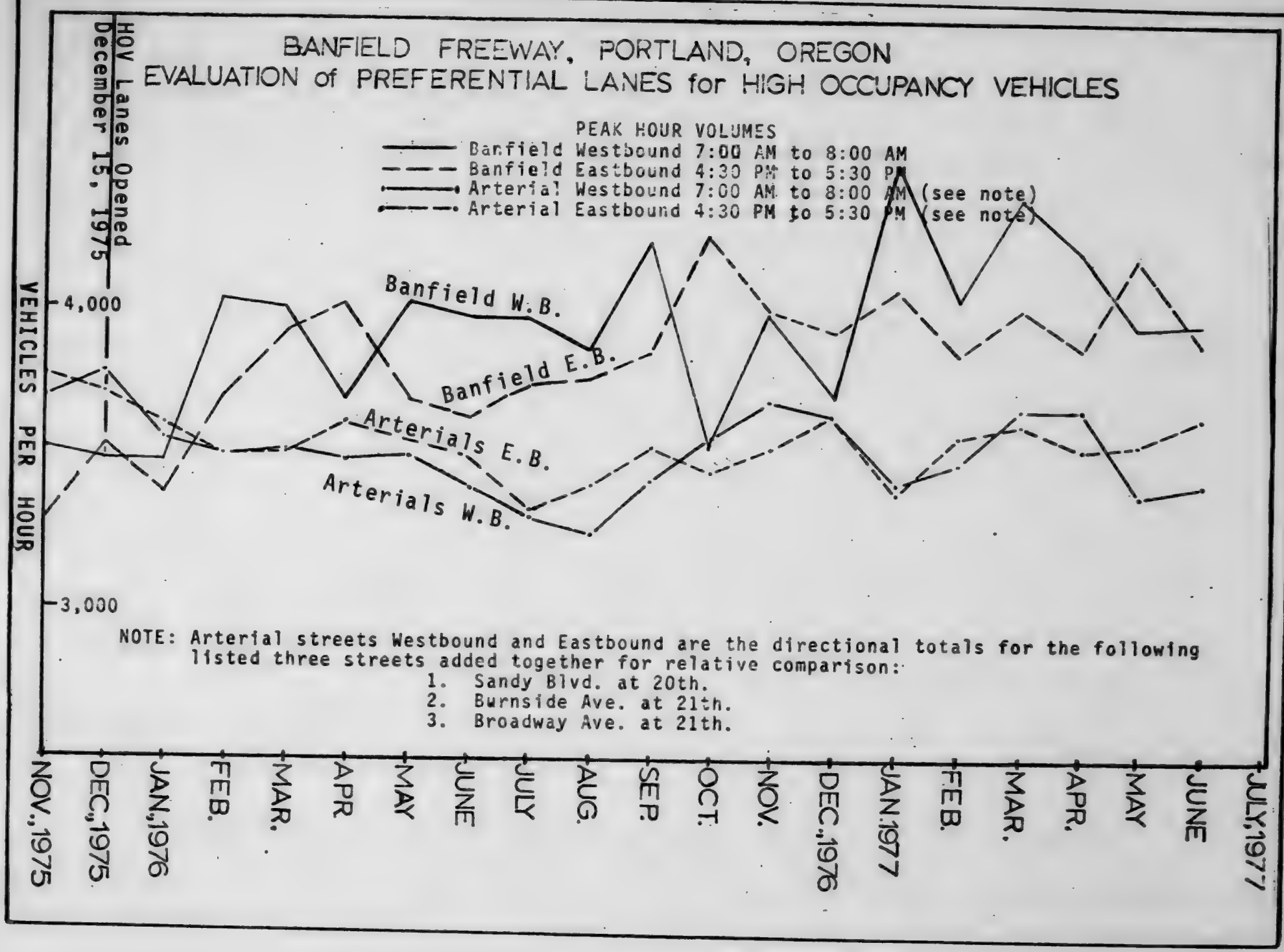


NOTE: Arterial streets Westbound and Eastbound are the directional totals for the following listed three streets added together for relative comparison:

1. Sandy Blvd. at 20th.
2. Burnside Ave. at 21st.
3. Broadway Ave. at 21st.

*NOTE: Estimated Average Weekday Total Used Due To Lack of Complete Records for this Period.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES



NOTE: Arterial streets Westbound and Eastbound are the directional totals for the following listed three streets added together for relative comparison:

1. Sandy Blvd. at 20th.
2. Burnside Ave. at 21th.
3. Broadway Ave. at 21th.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

PEAK HOUR VEHICLE AND PERSONS COUNT ON THE BANFIELD
Westbound (W.B.) & Eastbound (E.B.)

PERSONS AND VEHICLES ON THE FREEWAY

6,000
Persons
5,000
4,000
Vehicles

E.B.
W.B.
W.B.
E.B.

H.O.V. LANES OPENED Dec. 15, 1975

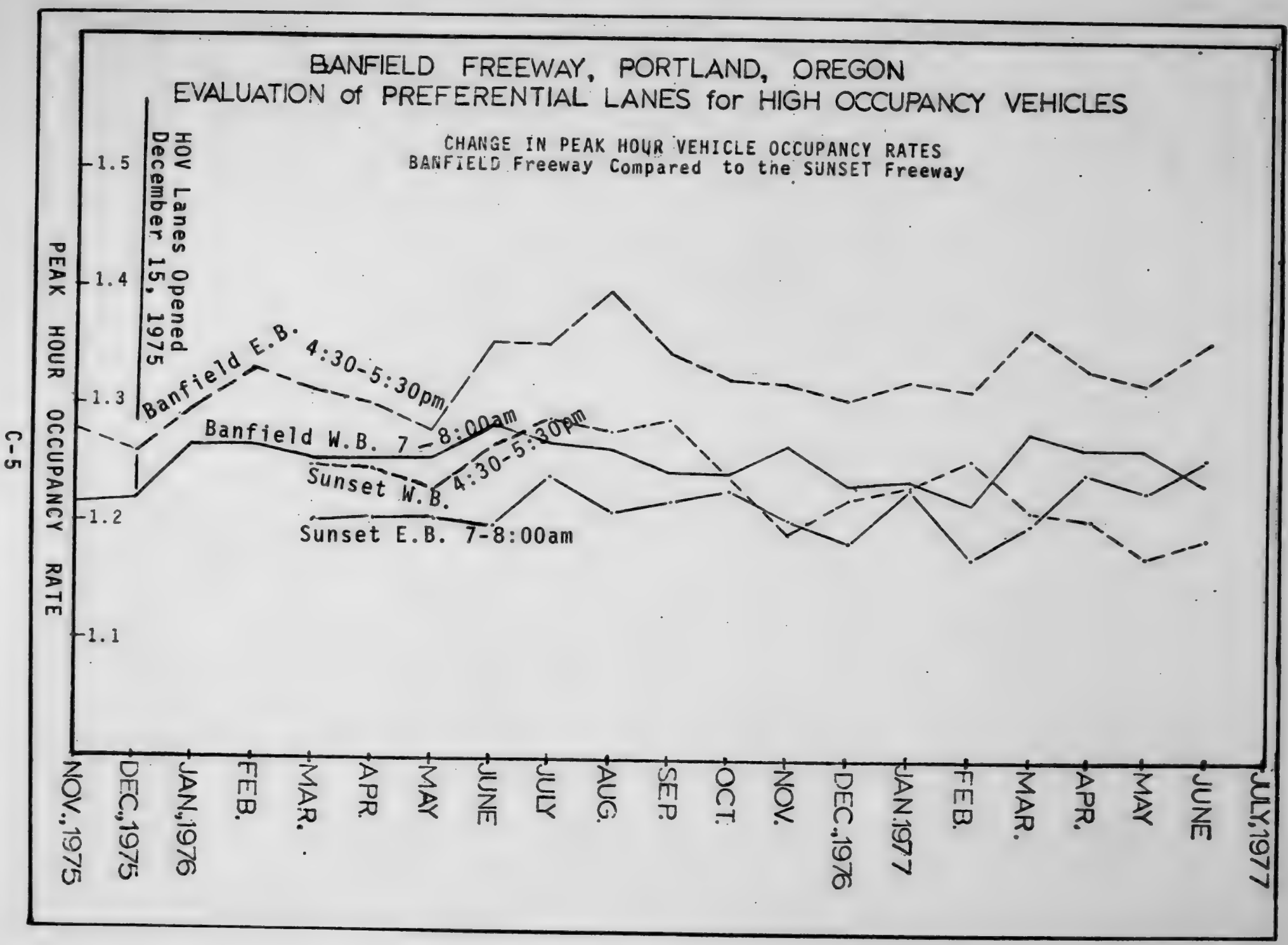
* see note

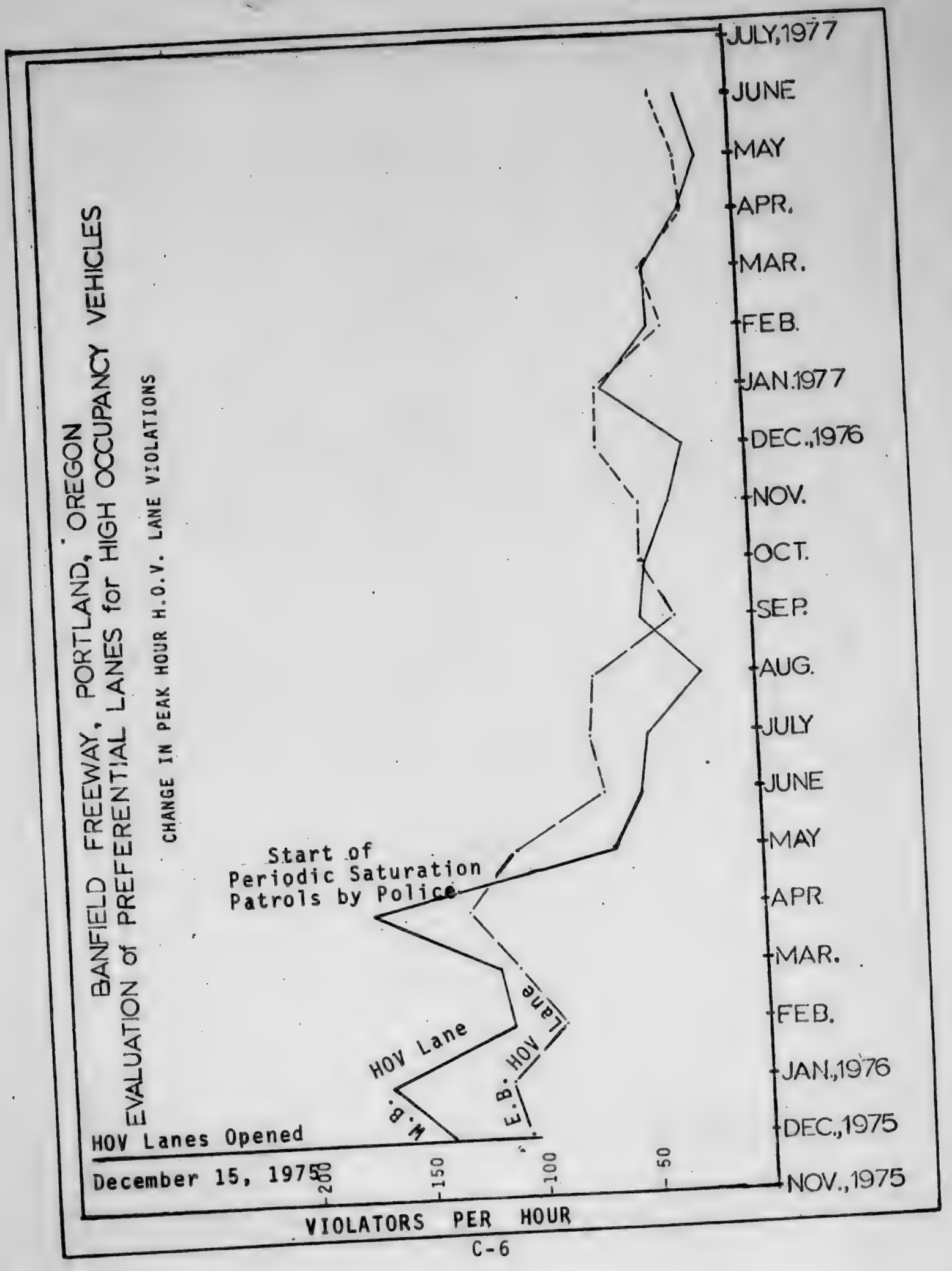
NOTE: All counts taken at 47th Ave. except * 60th Ave.

NOV.,1975 DEC.,1975 JAN.,1976 FEB. MAR. APR. MAY JUNE JULY AUG. SEP. OCT. NOV. DEC.,1976 JAN.1977 FEB. MAR. APR. MAY JUNE JULY,1977

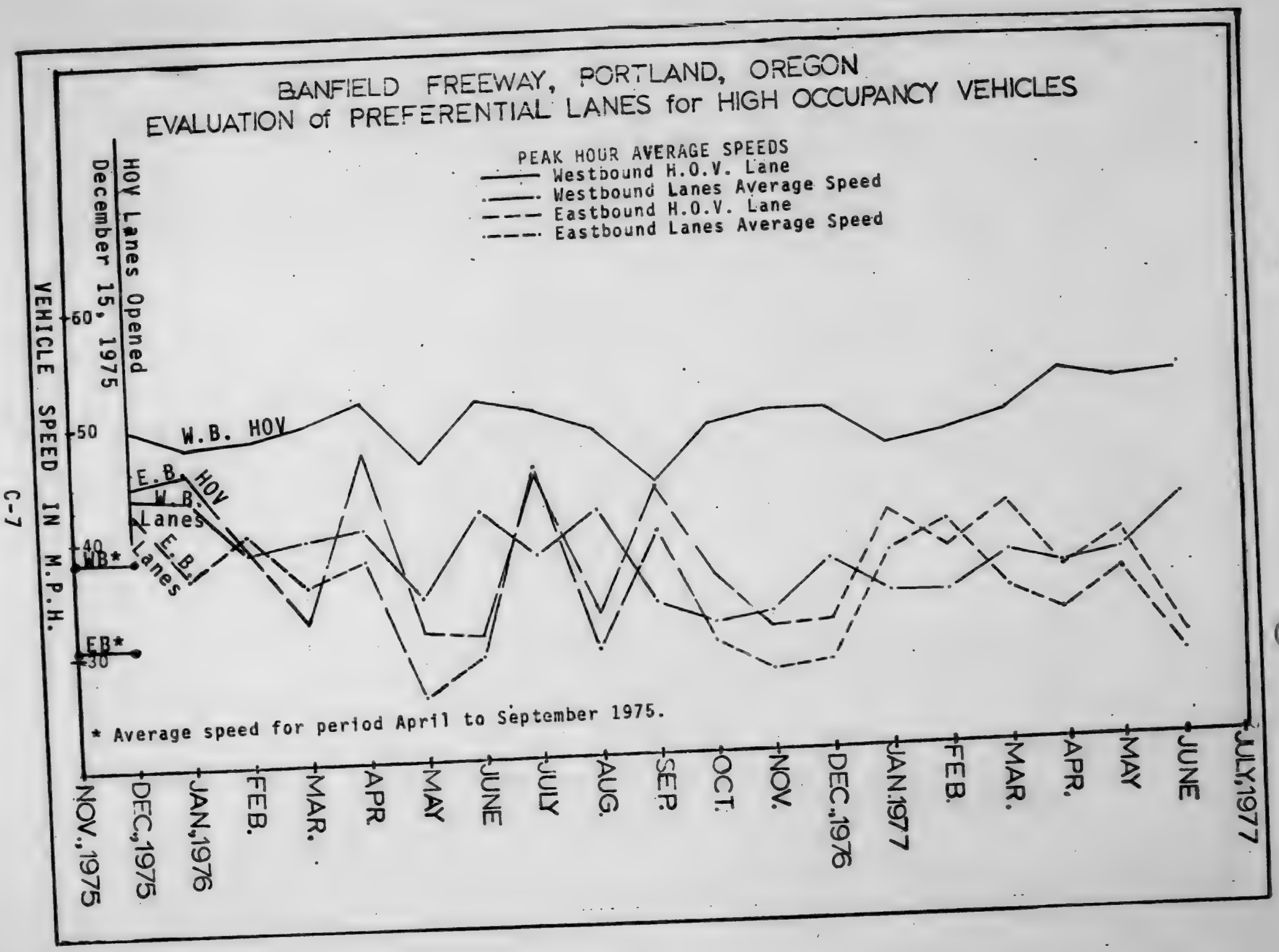
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

CHANGE IN PEAK HOUR VEHICLE OCCUPANCY RATES
BANFIELD Freeway Compared to the SUNSET Freeway

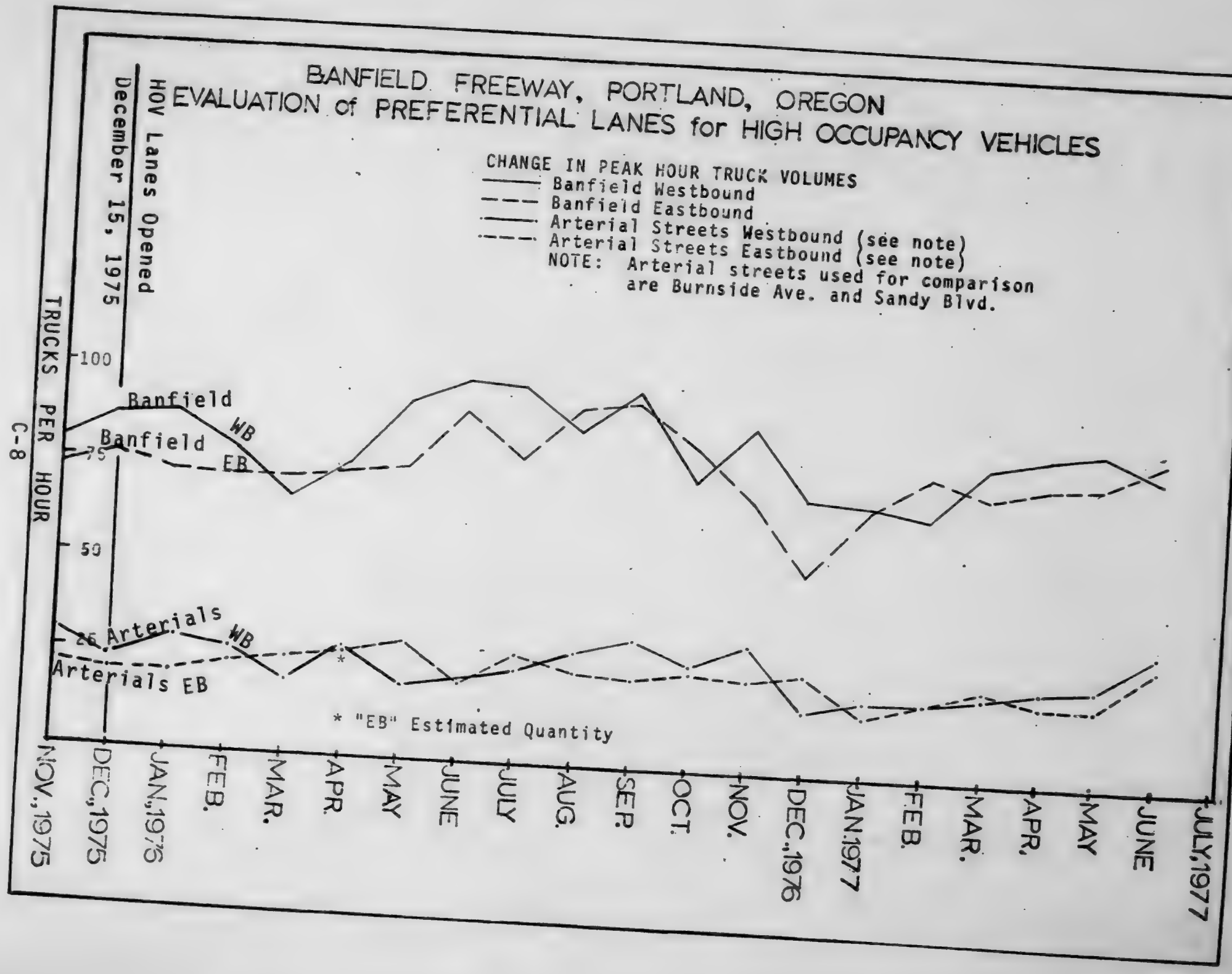



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
CHANGE IN PEAK HOUR H.O.V. LANE VIOLATIONS
JULY,1977
JUNE
MAY
APR.
MAR.
FEB.
JAN.1977
DEC.,1976
NOV.
OCT.
SEP.
AUG.
JULY
JUNE
MAY
APR
MAR.
FEB.
JAN.,1976
DEC.,1975
NOV.,1975
Start of
Periodic Saturation
Patrols by Police
HOV Lane
W.B.
E.B. HOV Lane
HOV Lanes Opened
December 15, 1975
200
150
100
50
VIOLATORS PER HOUR

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

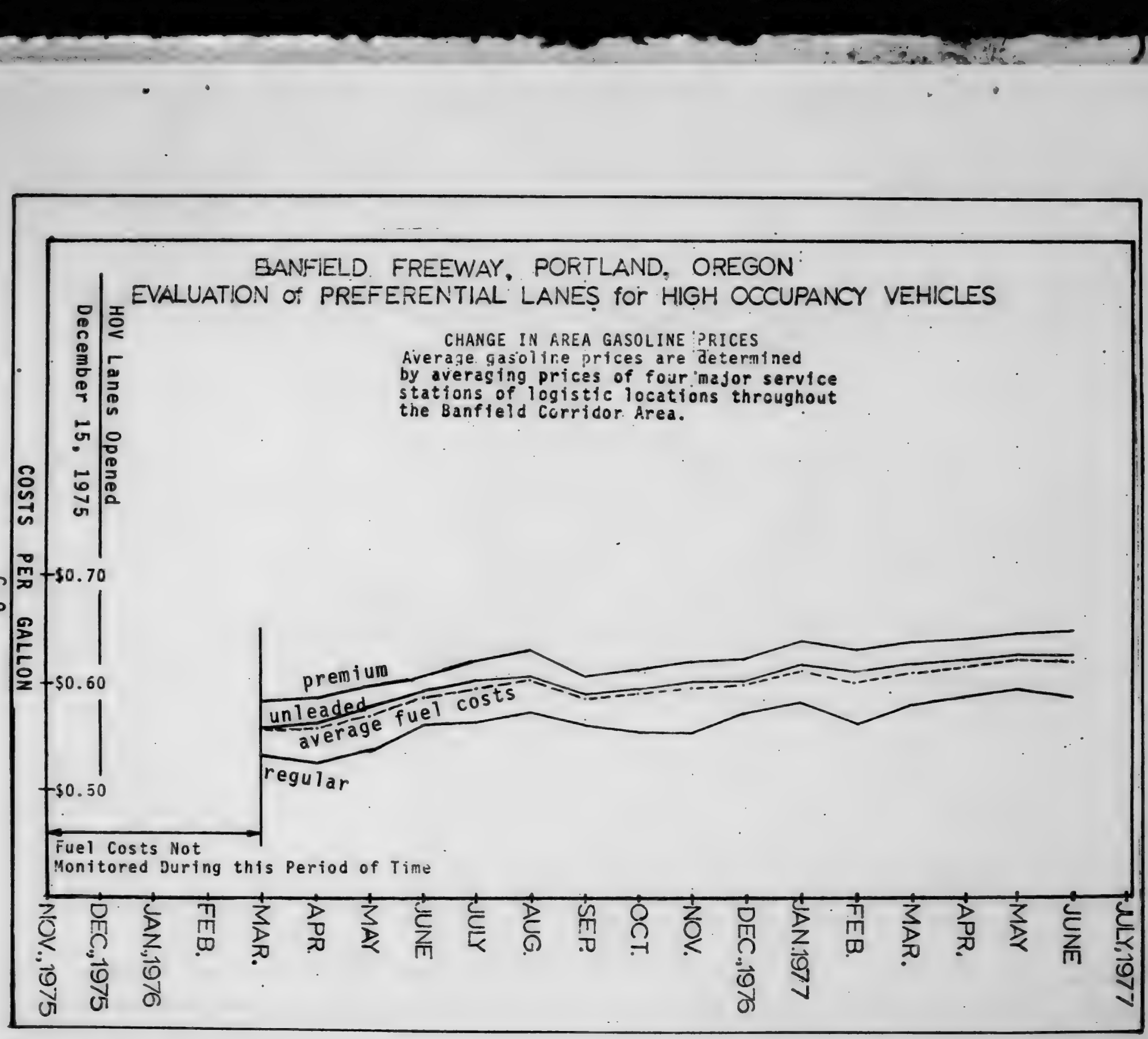


BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES



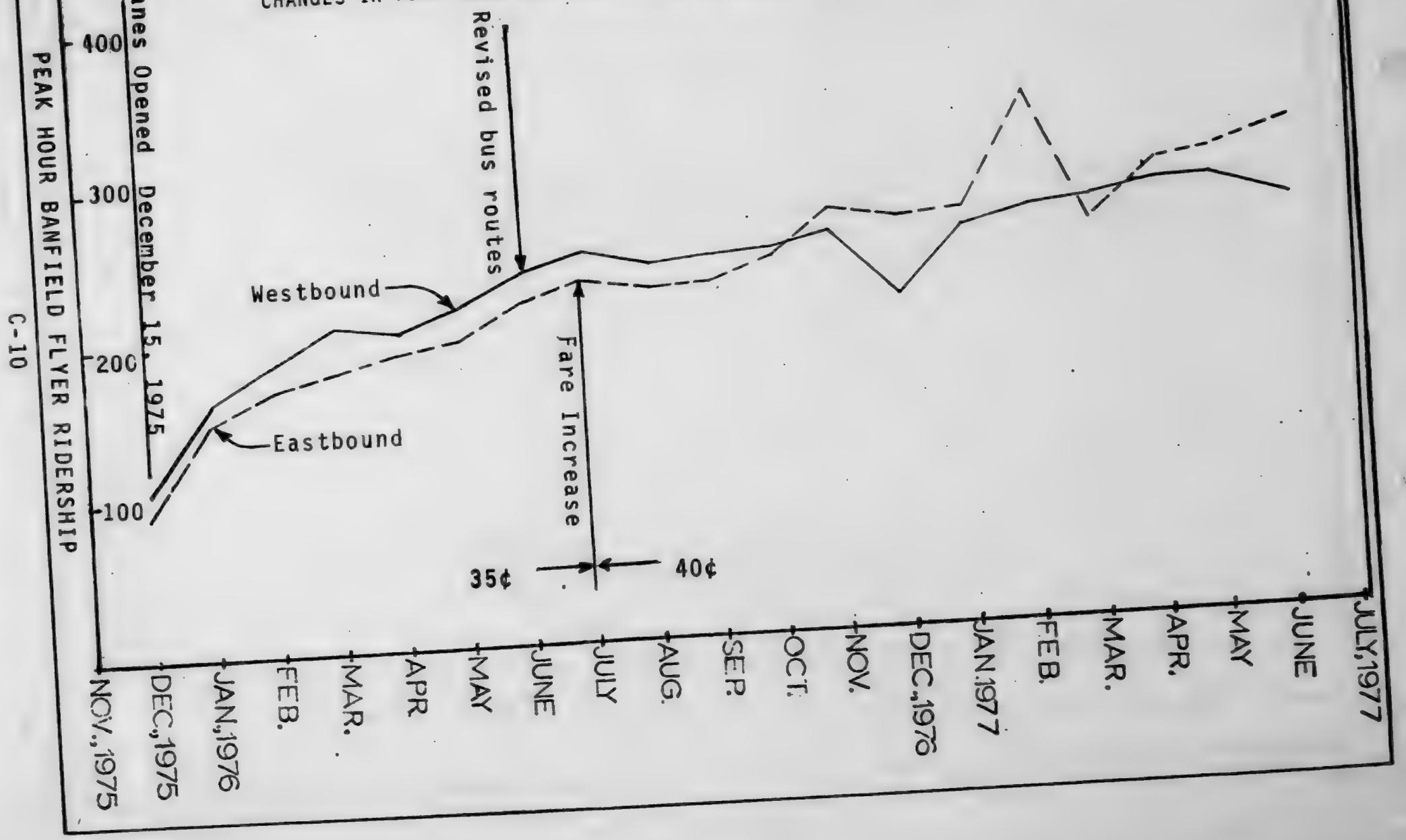
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

CHANGE IN AREA GASOLINE PRICES
Average gasoline prices are determined by averaging prices of four major service stations of logistic locations throughout the Banfield Corridor Area.



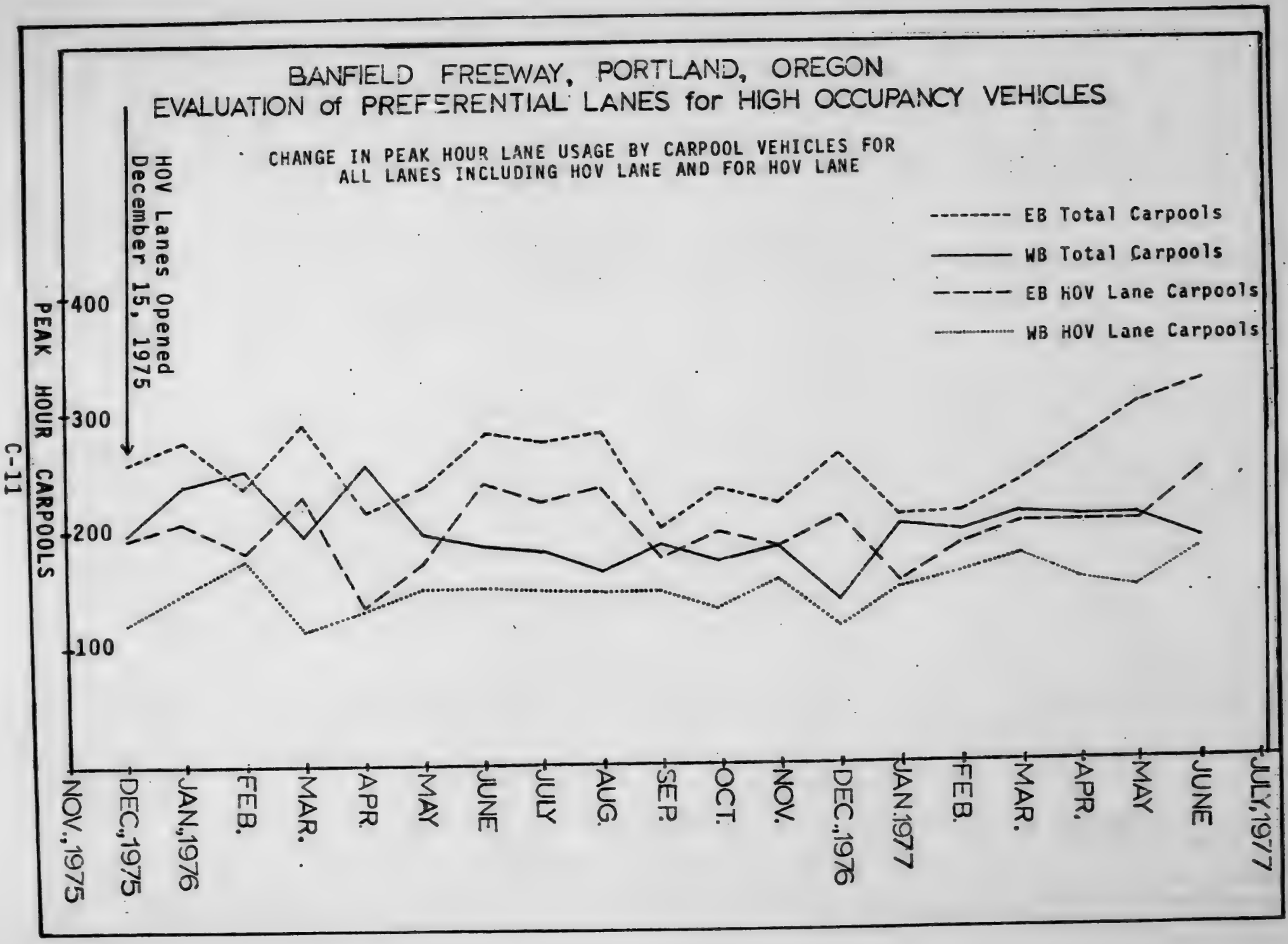
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

CHANGES IN PEAK HOUR BUS PATRONAGE COMPARED TO THE TRANSIT FARE CHARGES



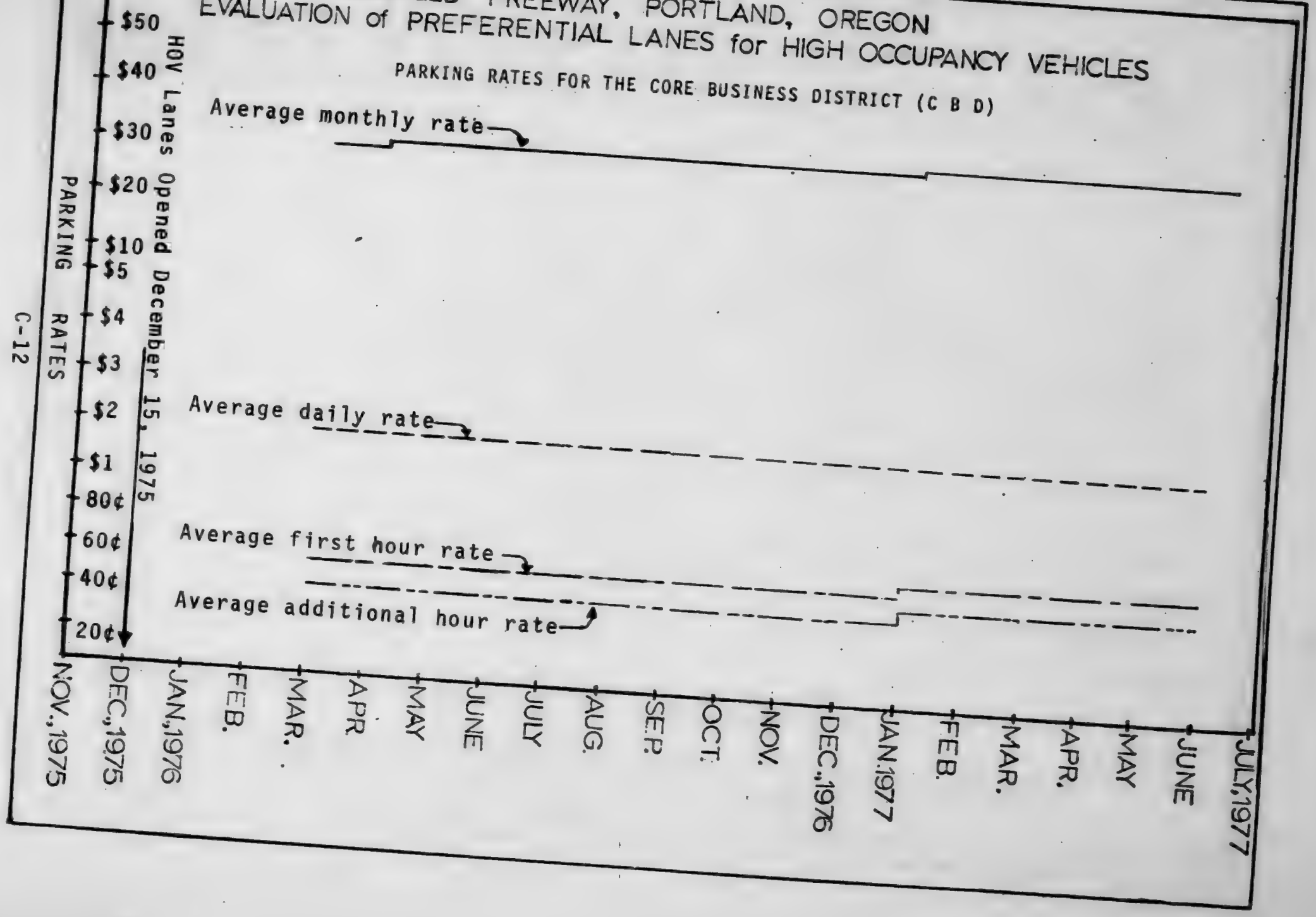
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

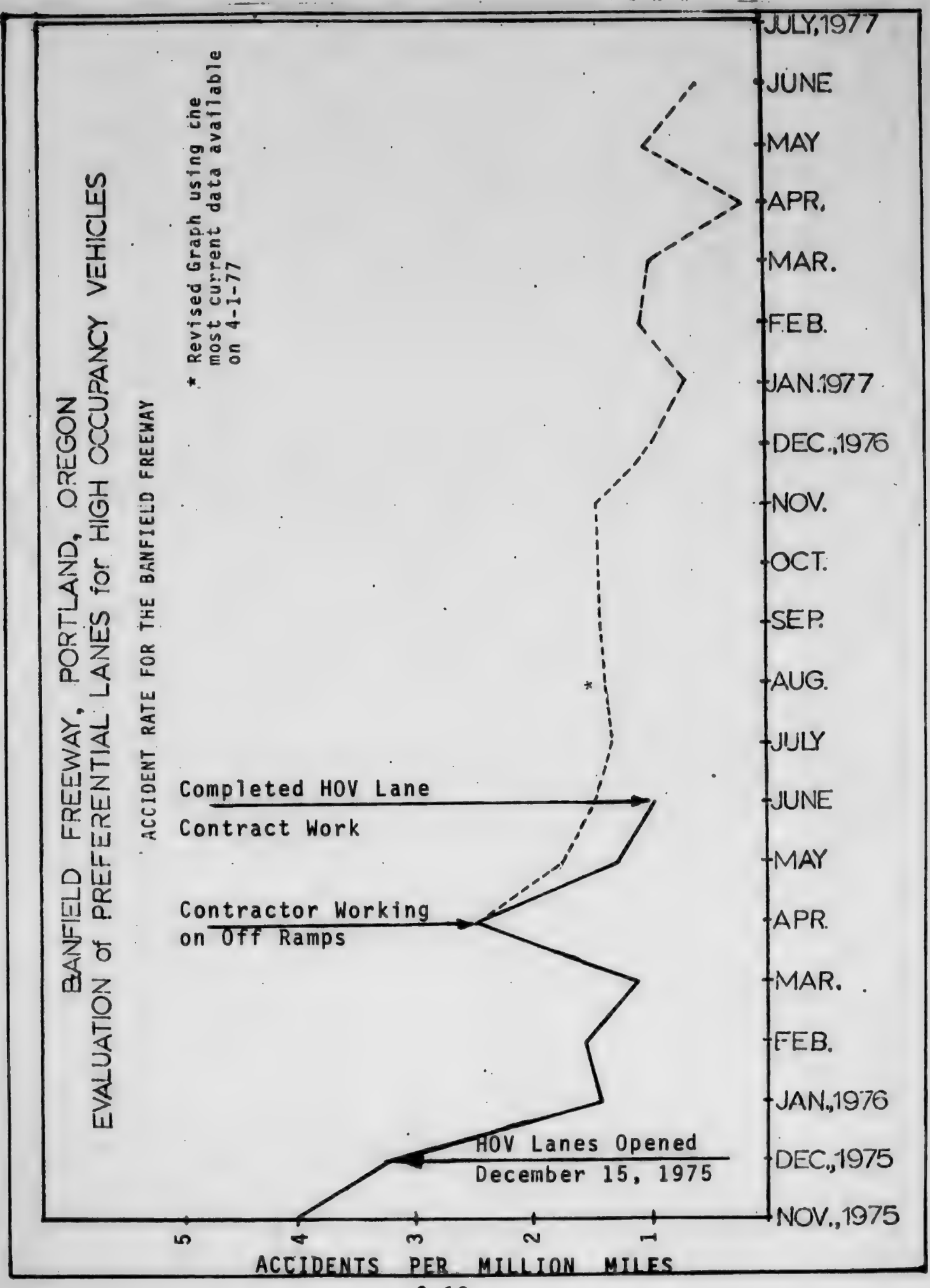
CHANGE IN PEAK HOUR LANE USAGE BY CARPOOL VEHICLES FOR ALL LANES INCLUDING HOV LANE AND FOR HOV LANE

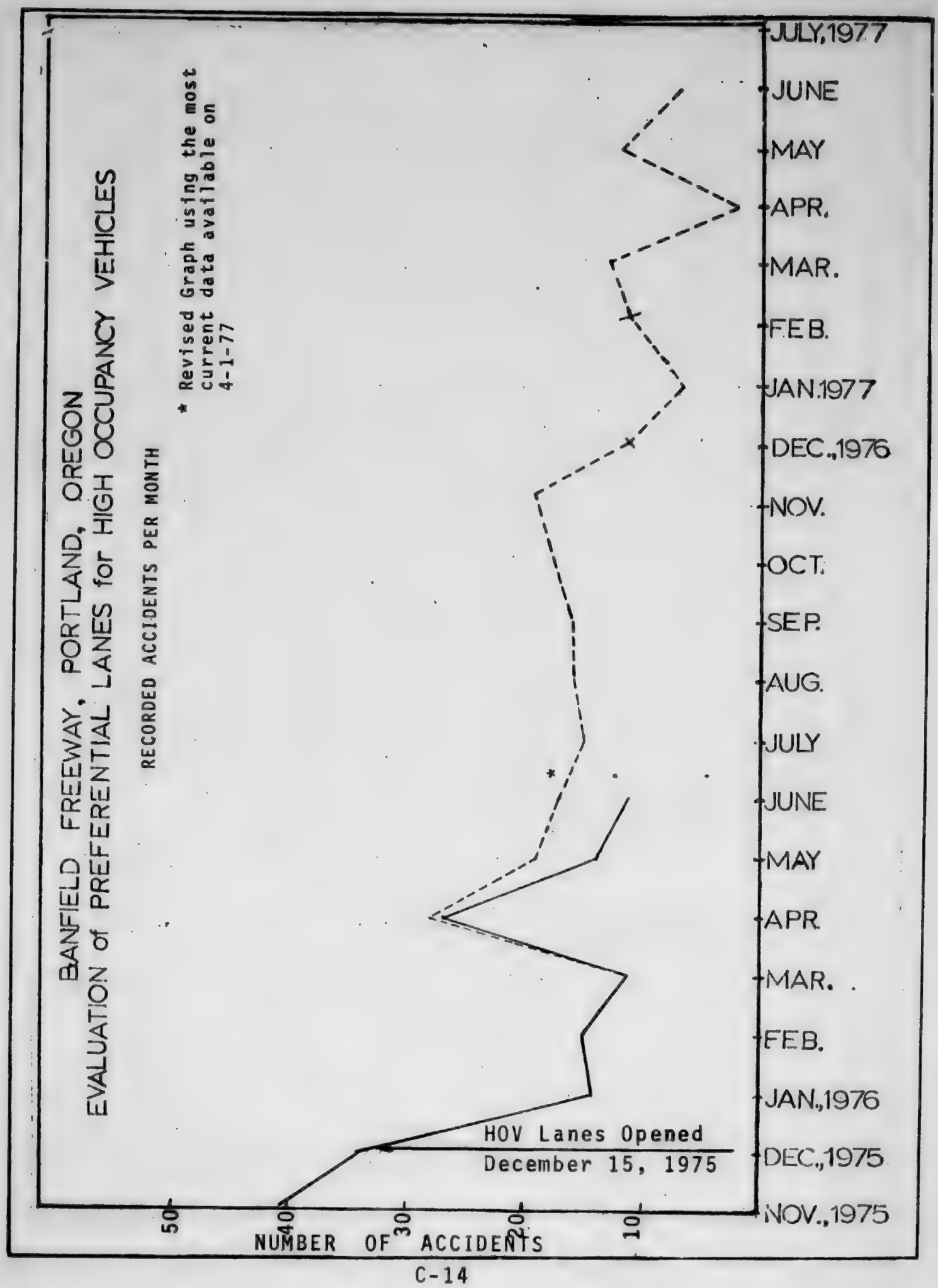


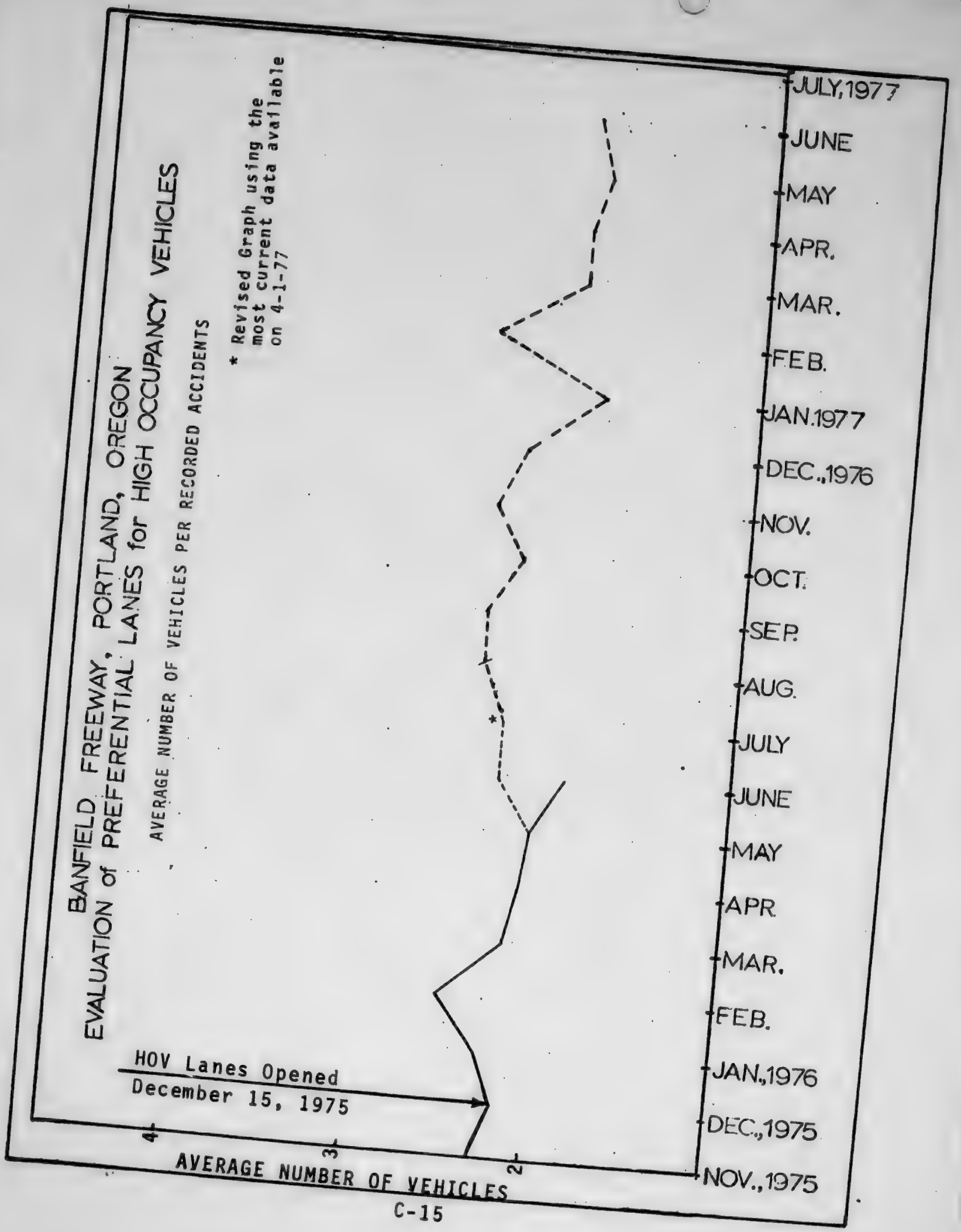
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

PARKING RATES FOR THE CORE BUSINESS DISTRICT (C B D)




BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
ACCIDENT RATE FOR THE BANFIELD FREEWAY
* Revised Graph using the most current data available on 4-1-77
Completed HOV Lane
Contract Work
Contractor Working on Off Ramps
HOV Lanes Opened December 15, 1975
JULY,1977
JUNE
MAY
APR.
MAR.
FEB.
JAN.1977
DEC.,1976
NOV.
OCT.
SEP.
AUG.
JULY
JUNE
MAY
APR.
MAR.
FEB.
JAN.,1976
DEC.,1975
NOV.,1975
5
4
3
2
1
ACCIDENTS PER MILLION MILES


BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
RECORDED ACCIDENTS PER MONTH
* Revised Graph using the most current data available on 4-1-77
JULY,1977
JUNE
MAY
APR.
MAR.
FEB.
JAN.1977
DEC.,1976
NOV.
OCT.
SEP.
AUG.
JULY
JUNE
MAY
APR.
MAR.
FEB.
JAN.,1976
DEC.,1975
NOV.,1975
HOV Lanes Opened
December 15, 1975
50
40
30
20
10
NUMBER OF ACCIDENTS


BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
AVERAGE NUMBER OF VEHICLES PER RECORDED ACCIDENTS
* Revised Graph using the most current data available on 4-1-77
HOV Lanes Opened December 15, 1975
AVERAGE NUMBER OF VEHICLES
4
3
2
NOV.,1975
DEC.,1975
JAN.,1976
FEB.
MAR.
APR
MAY
JUNE
JULY
AUG.
SEP.
OCT.
NOV.
DEC.,1976
JAN.1977
FEB.
MAR.
APR.
MAY
JUNE
JULY,1977

APPENDIX D
DETAILED RESULTS OF TRANSIT AND CARPOOL SURVEYS

Section 4 dealing with modal shifts summarized the results of the transit and carpool survey conducted in the last part of 1976. Appendix D will tabulate the results of this survey so the complete standing of the answers given to the questions can be displayed. The questions dealing with origin and destination have been omitted since they have been treated fully in Section 4.

BANFIELD FLYER RIDERS SURVEY:

"How did you arrive at the Park-and-Ride lot today?"

TABLE D-1 MODE OF ARRIVAL AT PARK-AND-RIDE LOT

Mode	Number of Respondents	Percent of Total
Car, drove alone	133	55%
Carpoolers	35	14.5
Car, dropped off	35	14.5
Bus	4	2
Walk	28	12
Other	4	2
	239	100%

"What time does your work shift begin?"

TABLE D-2 WORK STARTING TIMES

Time	Number of Respondents	Percent of Total
7:00	1	.4%
7:30	33	13.5
7:45	10	4.1
7:50	1	.4
8:00	105	43.2
8:15	10	4.1
8:25	1	.4
8:30	74	30.4
8:35	1	.4
9:00	7	2.8
	243	100. %

"What time does your work shift end?"

TABLE D-3 WORK ENDING TIMES

Time	Number of Respondents	Percent of Total
Before 4:00	9	4.%
4:00-4:05	9	4.
4:15	19	8.
4:30	60	25.
4:45	22	9.
5:00-5:05	111	45.
5:15	1	0.
5:30	8	3.
6:00	2	.1
other	2	.1
	243	100. %

"When did you start using the Banfield Flyer?"

TABLE D-4 BEGINNING FLYER USE BY QUARTER

Quarter (Beginning of service)	Number of Respondents	Percent of Total
1975-December	35	15%
1976-January-March	22	9
April-June	25	11
July-September	31	14
October-December	55	24
1977-January-March	41	18
April 1-20	18	8

TABLE D-5 BEGINNING FLYER USE BY YEAR

Year	Number of Respondents	Percent of Total
1975	35	15%
1976	133	58
1977	59	26

"How did you get to work or school before your started to use the Banfield Flyer Service?"

TABLE D-6 FORMER MODES OF TRAVEL

Mode	Number of Respondents	Percent of Total
Car, drove alone	65	27
Two-person carpool	30	13
Three-person carpool	10	4
Another bus	112	47
Other	21	9
	238	100%

"If you used another bus line which line did you take?"

TABLE D-7 FORMER BUS LINES

Line #	Number of Respondents	% of former riders of another line
1	2	1%
3	3	3
5	1	1
9	7	6
14	3	3
17	4	3
18	34	30
19	29	26
20	11	10
21	1	1
26	1	1
31	1	1
40	1	1
44	13	12
56	1	1
	112	100%

"If you formerly traveled by car, which route did you normally use prior to the Banfield HOV Lane?"

TABLE D-8 PREVIOUS TRAVEL ROUTE

Route	Number of Respondents	Percent of former car riders or drivers
Banfield	100	63%
Burnside	14	9
Sandy	4	2
Glisan	5	3
Other route	36	23
	159	100%

"Which factors had the greatest effect on your decision to ride the Banfield Flyer? Check as many as apply to you."

TABLE D-9 ATTRACTION FACTORS

Factor	Number of persons	Percent of total riders
Cost savings	167	67%
Travel time savings	140	56
Non-stop service	173	69
Convenience	79	32
No auto available	8	3
Other	14	6

TABLE D-10
REASONS FOR FLYER-USE COMPARED
TO PREVIOUS MODE OF TRAVEL

Reasons for Flyer Use	Previous Mode of Travel: Car-drove alone	2 or 3 person carpool	Another bus	Other	Total
Cost savings	53	29	59	16	157
Travel time savings	5	5	39	4	53
Non-stop service	4	4	10	0	18
Convenience	3	0	1	1	5
No auto available	0	1	0	0	1
Other	0	1	1	0	2
Total	65	40	110	21	236

"How did you learn about the Banfield Flyer service? Please check as many as apply to you."

TABLE D-11 SOURCES OF INFORMATION ABOUT FLYER SERVICE

Source	Number of Responses	Percent of total riders
Newspaper	80	32%
Highway signs on the Banfield	59	24
Posters	31	12
Brochures	82	33
Employer	10	4
Radio	19	8
TV	22	9
Billboards	10	4
Other	95	38

"Which trips do you ride?"

TABLE D-12 TRANSIT TRIPS

Trip	Number of persons	Percent of total
A.M. only	25	10%
P.M. only	0	0
Both	224	90
	249	100%

"How often do you ride the Banfield Flyer service?"

TABLE D-13 TRIP FREQUENCY

Frequency of trip	Number of persons	Percent of total
Every weekday	205	82%
About three or four days a week	34	14
One or two days a week	8	3
One to three days a month	0	0
One to ten days a year	2	1
	249	100%

"How many automobiles are in operating condition in your residence?"

TABLE D-14 AUTO OWNERSHIP

Number of Autos	Number of respondents	Percent of total
none	9	4%
one auto	83	34
two autos	110	44
three or more autos	45	18
	247	100

"Which increased activity do you think would do the most to improve air quality in the Portland region?"

TABLE D-15 IMPROVING AIR QUALITY

Activity	Number of respondents	Percent of total
Mass transit	187	82%
Carpool	11	5
Emission Inspection	8	3
Traffic Improvements	18	8
Other	5	2
	229	100%

"Please indicate your age."

TABLE D-16 AGE OF RIDERS

Age	Number of persons	Percent of total
Under 20	6	2%
20 to 44	194	79
45 to 64	43	18
65 or over	2	1
	245	100%

"Please indicate your sex."

TABLE D-17 SEX OF RIDERS

Sex	Number of respondents	Percent of total
Female	150	61%
Male	94	39
	244	100%

"Please indicate your annual family income (before taxes)."

TABLE D-18 FAMILY INCOME

Annual Income	Number of respondents	Percent of total
Under $5,000	5	2%
$5,000 to $9,999	41	17
$10,000 to $14,999	51	22
$15,000 or over	129	54
Don't know	11	5
	237	100%

CARPOOL DRIVERS AND PASSENGERS:

"How did you normally commute prior to using the Banfield HOV Lanes?"

TABLE D-19 PRIOR COMMUTING HABITS

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Bus	4	3.74	45	26.96
Drove Along	31	28.97	33	19.74
2-Person Car Pools	35	32.71	36	21.56
3-Person Car Pools	37	34.58	53	31.74
	107	100.00%	167	100.00%

"What route did you normally use prior to the Banfield HOV Lanes?"

TABLE D-20 PRIOR COMMUTING ROUTES

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Banfield	73	70.19	108	67.50
Sandy	3	2.88	5	3.12
Burnside	9	8.65	7	4.38
Glisan	8	7.69	16	10.00
Other Route	11	10.59	24	15.00
	104	100.00%	160	100.00%

"How did you first hear about the Banfield HOV Lanes?"

TABLE D-21 PUBLICITY MEDIUM

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Newspapers	51	29.31	77	30.43
Radio	21	12.01	33	13.04
Television	31	17.82	54	21.34
Employer	3	1.72	5	1.98
Brochures	11	6.32	15	5.94
Billboards	9	5.17	12	4.74
Signs on Banfield	41	23.56	50	19.76
Other	7	4.03	7	2.77
	174	100.00%	253	100.00%

"What incentive contributed to the formation of your carpool?"

TABLE D-22 CARPOOL INCENTIVES

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Cost Savings	50	33.11	77	33.84
Time Savings	35	23.18	38	17.19
Convenience	31	20.53	73	33.03
Employer Incentives	5	3.31	8	3.62
Environmental Concerns	12	7.95	16	7.24
Other	4	2.13	9	4.07
	137		221	

"What increased activity do you think would do the most to improve air quality?"

TABLE D-23 IMPROVING AIR QUALITY

	Carpool Drivers		Carpool Passengers	
	Number of Responses	Percent	Number of Responses	Percent
Mass Transit	24	18.75	57	28.93
Carpooling	34	26.56	54	27.41
Vehicle Emission Inspections	15	11.72	20	10.15
Traffic Flow Improvements	40	31.25	52	26.40
Other Factors	15	11.72	14	7.11
	128		197	

NON-HOV LANE USERS:

"What do you think is the major reason more people do not carpool?"

TABLE D-24 REASONS FOR NOT CARPOOLING

	Number of Responses	Percent
No Personal Privacy	106	8.45
Inconvient	547	43.62
Need Car for Work	277	22.09
Unreliable	169	13.48
Other	155	12.36
	1,254	

"What do you think is the major reason more people do not ride the bus?"

TABLE D-25 REASONS FOR NOT RIDING THE BUS

	Number of Responses	Percent
No Personal Privacy	91	6.78
Too Infrequent	145	10.80
Need Car for Work	238	17.73
Too Slow	225	16.77
Route Inconvenient	361	26.90
Park & Ride Locations Inconvenient	105	7.82
Other	177	13.48
	1,342	

"Which increased activity do you think would do the most to improve air quality?"

TABLE D-26 IMPROVING AIR QUALITY

	Number of Responses	Percent
Mass Transit	252	26.11
Carpooling	79	10.80
Vehicle Emission Inspection	118	12.23
Traffic Flow Improvements	405	41.97
Other Factors	111	11.50

APPENDIX E
REFERENCES

"Banfield Flyers Ridership Survey", Tri-County Metropolitan Transit District, July 1977.

"Banfield Marketing Proposal", prepared for Oregon Department of Transportation by CARPOOL Project, Portland August 1, 1975.

"Banfield HOV Survey Comments", Oregon Department of Transportation/ Tri-County Metropolitan Transit District, December 1976.

"Banfield Freeway High-Occupancy Vehicle Lane Traffic Study", prepared by Oregon Department of Transportation for the Banfield HOV Lane Technical Advisory Committee, monthly January 1976 thru June 1977.

"Banfield Freeway Traffic Survey", Oregon Department of Transportation, April 1973.

"Bus/Carpool Lanes Route 101 Marin County, Caltrans, District 4, March 1977.

"Carpool Incentives and Opportunities", U.S. Department of Transportation, February 1975.

"Carpool Project, Portland Metropolitan Area, 1975 Report", CARPOOL Project, Portland, January 1976.

"Carpool Project, Portland Metropolitan Area, 1976 Report", CARPOOL Project, Portland.

"Composite Traffic Accident Listing, 1971 thru 1975", Oregon Department of Transportation, August 1975.

Evaluation of Carpool and Bus Traffic Operational Incentives, RFP-129, Federal Highway Administration, November 1974.

Evaluation Criteria Related to Bus and Carpool Traffic Operational Incentive Projects, 1975 FCP Research Conference, Minneapolis, September 1975.

Evaluation of the Shirley Highway Express-Bus-on-Freeway Demonstration Project (The), Final Report, Report DOT/UMTA 7, prepared for the Urban Mass Transit Administration, August 1975.

"Final Negative Declaration, Banfield Freeway High-Occupancy Vehicle (HOV) Lanes", Oregon Department of Transportation, June 4, 1975.

"Expanded Transportation Services", Proceedings of 1975 National Conference on Areawide Carpooling, Houston, Texas, December 1975.

General Planning Data and Projections, Columbia Region Association of Governments, Portland, Oregon, January 1977.

Highway Air Quality, Implementation Package, No. 76-5, U.S. Department of Transporation.

"HOV Lane Project,Banfield Freeway Quarterly Report", Metropolitan Division, Oregon Department of Transportation, October 15, 1976.

"HOV Lane Project, Quarterly Report",Metropolitan Division, Oregon Department of Transportation, January 15, 1977.

"HOV Lane Project, Quarterly Report", Metropolitan Branch, Oregon Department of Transportation, April 15, 1977.

"Interstate Air Pollution Study, Phase II Project Report, Part 4- Effect of Air Pollution, U.S. Department of Health, Education and Welfare, December 1966

"Issues in Busway and Bus/Carpool Lane Enforcement", prepared for Transportation Research Board, 55th Annual Meeting, January 1976.

I-205 Final Environmental Impact Statement, Howard, Needles, Tammen & Bergendoff, 1974.

1977 Gas Mileage Guide, FEA/D-77-007, Federal Energy Administration/ Environmental Protection Agency, January 1977.

"Project Air Quality Considerations", memorandum, Michael Lash, Director of Environmental Policy, U.S. Department of Transportation, January 16, 1977.

Preferential Facilities for Carpools and Buses, Seven Reports, (HHP-26), Federal Highway Administration, May 1976.

"Procedures of Estimating Automobile Fuel Consumption on Congested Urban Roads",NBSIR-74-595, Urban Mass Transit Administration, August 1974.

"Public Transit Right-of-Way", J.J. Baker, Transportation Research Board Meeting, Washington, D.C. January 15, 1975.

"Report from the General Manager, 1976-1977 (A)" Tri-County Metropolitan Transit District, Portland.

"Santa Monica Freeway Diamond Express" California Department of Transportation, March 1976, April 28, 1976, July 1976.

"Smog Chemistry Points Way to Rational Vehicle Emission Controls", SAE Transactions, Vol 74, 1966.

"Supplement No.5 for Computation of Air Pollutant Emission Factors", Second Edition, Environmental Protection Agency, December 1975.

"The Wrong Way is Sometimes the Right Way", Marshall Suloway, Transportation Engineers Journal of ASCE, Vol. 102, No. TE4, November 1976.

Transportation and Traffic Engineering Handbook, Institute of Traffic Engineers, 1976.

- #8:59

2

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

METROPOLITAN SECTION

5821 N.E. GLISAN, PORTLAND, OREGON 97213

December 7, 1977 Telephone 238-8226

TOM WALSH, Member
Oregon Transportation Commission
c/o Walsh Construction Company
2839 Southwest Second Avenue
Portland, OR 97201

At the Oregon Transportation Commission workshop on December 6, you posed a question as to the state gas-tax monies in the Mt. Hood Freeway, e.4. transfer projects in the Portland metropolitan area. My response was that although we are doing the work on the projects, the match was coming from local sources. I feel it important to clarify that point.

Work on the Banfield Transitway project is being accomplished under two accounts. One account provides for Alternative 1 through Alternative 4, including the high-occupancy and busway lanes, in which the Oregon Department of Transportation and Tri-Met both participate with 7 per cent local match, each. The other account provides for development of Alternative 5, the light-rail transit (LRT) route(s) to Gresham and Lents. That work being done specifically for LRT by ODOT is fully supported by a 14 per cent local match from Tri-Met. The entire, overall, impact statement is being accomplished under the first account where ODOT and Tri-Met participate with 7 per cent each for local match.

The initial work accomplished on the Sunset Transitway was done with ODOT and Tri-Met participating 7 per cent each of the local match.

The initial work on the Oregon City Transitway was done by Tri-Met, with the full 14 per cent local match from Tri-Met.

The Powell Boulevard project, including preliminary engineering, right-of-way, and construction is being accomplished by ODOT with the 14 per cent local match coming from the state bond funds.

The Southwest 72nd Avenue interchange project on Highway 217, including preliminary engineering, right-of-way, and construction is being accomplished by ODOT with the 14 per cent local match coming from the state bond funds.

The Oregon City Bypass preliminary engineering work is being accomplished by ODOT with 14 per cent local match from state bond funds.

All other projects under the e.4. program in Portland are being accomplished with local jurisdictions providing the local match.

ROBERT N. BOTHMAN
Administrator

ebg

cc: G. L. Jackson
P. J. Brix
B. G. Coleman
M. P. Hollern
R. A. Burco
F. [illegible] Klaboe
L. W. Rulien
H. S. Coulter

RECEIVED
DOT OPERATIONS
DEC - 8 '77
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

8259 NE Union Ave-NE 82nd Ave Sec 1975
Columbia River Hwy. in Portland
(Grad.,pave,bar.,sign & ill.) #7

K. K. 121 6-24-76
C & A 5763 8-6-76

STATE OF OREGON

INTEROFFICE MEMO

TO: H. S. COULTER
State Highway Engineer

DATE: June 3, 1977

FROM: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: Wide-Load, Peak-Hour Restrictions
Portland Metropolitan Area

Previously, we submitted a recommendation, requested by the Technical Advisory Committee assisting the Department in monitoring the operations of the Banfield Freeway, to restrict the travel of overwidth vehicles during peak hours on the Banfield. I concur with their recommendations and further recommend that these restrictions apply to all freeways in the Portland Metropolitan area.

Bob Hamilton's staff has reviewed this request and has indicated that implementing the overwidth load restriction during peak traffic hours in the Metropolitan area could be accomplished as outlined in J. W. Isaac's attached letter.

For further justification on need for the peak-hour restrictions, which you requested, attached is a self-explanatory report prepared by Jerry Street which includes recommendations from Oregon State Police and Don Bergstrom, City of Portland Traffic Engineer.

Please proceed with a resolution for the Transportation Commission's consideration.

JDM/ldo

Attachments

cc: Jerry Street

RECEIVED
STATE HWY ENGR
JUN 7'77
REFER TO
LE George & Hamilton.
FOR
Info | Invest | R/D | D/R | Sign | Act | File

6-7-77 cy Bothman

Bud. —
Would like consideration by Transportation advisory group looking at truck accidents, etc in Portland area. —

Bob. —
Your recommendations about restriction, need for or appropriate of a public hearing. —

HSC

11-188.1307

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Salem, Oregon 97310

March 8, 1977

FILE:

FROM: J. W. Isaac
Transportation Permit
Supervisor

TO:
R. P. Hamilton
Director of Permits

SUBJECT: Wide Load Peak Hour Restrictions
City of Portland

ME ... DE
C ... TO

FILE T/A

Bob Bothman's proposal of restricting overwidth loads during peak traffic hours in the City of Portland could be implemented in the following manner.

Our annual permits present a problem as there are approximately 5,000 permits involving width now in existence. It would be impossible to retrieve and amend each one. Bothman's statement that complete implementation would require one year is correct.

If the Banfield Technical Advisory Committee's proposal is approved by the appropriate authority, the Permit Unit would immediately start attaching riders to all annual permits issued advising the permittee that one year from the date of approval the restriction becomes effective. Also included in the rider would be the restriction hours, the highways involved and the boundaries on each.

During discussions with Dave Moehring, it was brought out that 8'6" wide busses that now operate would be restricted during the peak traffic hours. To allow the busses to operate and restrict all other vehicles and loads with a width over legal (8'0") would be discriminatory. Jack Sollis and Moehring concur. It is suggested that in the interest of equality, all vehicles and loads be restricted during peak traffic hours if the width is in excess of 8'6".

JWI/ft

Form 81-734-3030

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE
3700 S.W. 92ND AVENUE
PORTLAND, OREGON 97266
MAY 17, 1977

FILE: 26-1436
210

C.C.:: D. - METRO

MAY 18 1977

FILE

FROM: JERRY C. STREET
RESIDENT ENGINEER

Jerry C. Street

SUBJECT: BANFIELD H.O.V. LANES
Restrict Overwidth Vehicles from Freeways during Peak Rush Hours

TO: MR. ROBERT BOTHMAN
ASS'T STATE HWY ENG'R

Attached find two copies each of Letters from D.E. Bergstrom-City Traffic Engineer and E.E. Brandaw-Oregon State Police Captain regarding overwidth vehicles using the Banfield Freeway during the Peak Rush Hours.

On December 21, 1976, the Banfield H.O.V. Lane Technical Advisory Committee recommended that overwidth vehicles be prohibited from using the Banfield Freeway between the Peak Rush Hours of 6:30 to 9:30 A.M. and 3:30 to 6:30 P.M.. The vehicles affected would be all trucks, truck-trailer combinations and mobile homes in excess of 8-feet in width. All these vehicles are required to secure permits from the State Highway Department to operate on the Freeway System. It would be a simple matter to attach a rider to their permits denying the use of the Freeway during the Peak Rush Hours in the Portland Area.

The Committee felt that overwidth vehicles hinder the effectiveness of the H.O.V. Lane operation enough to warrant the above restrictions. These vehicles slow down following traffic in all lanes and create dangerous passing situations in heavy traffic. Because of their excessive width and the narrowness and curvature of the Banfield Freeway, these vehicles take up two full driving lanes. When these vehicles use the right lane, they block the center lane so that other vehicles have to pass them by using the H.O.V. Lane. A great many of these vehicles have trouble reentering the normal lanes after making the passing maneuver and are later stopped by the State Police for a H.O.V. Lane violation. If the overwidth vehicle use the center lane, it overhangs the H.O.V. Lane sufficiently to cause high occupancy vehicles to follow at a greatly reduced rate of speed impairing the effectiveness of the Lanes.

The Committee feels that the numbers of these overwidth vehicles are sufficient enough and their detremental affect to traffic great enough to warrant their banishment from the Banfield Freeway during Peak Rush Hours. In addition, it was recommended that do to similar interference with traffic on other Freeways during Peak Rush Hours the restriction of overwidth vehicles be extended to cover all Freeways in the Portland Area. This restricted zone would cover I-5 from the Tigard Exit to the Interstate Bridge, I-80N from 82nd Avenue to the I-5 Interchange, I-405 Loop in its entirety and the Sunset from I-405 to the Oregon 217 Exit. The hours of restriction would be from 6:30 to 9:30 A.M. and 3:30 to 6:30 P.M.. These recommendations are made to you for your approval.

JCS:ah

THE CITY OF
PORTLAND
OREGON

DEPT. OF FINANCE
AND ADMINISTRATION
NEIL GOLDSCHMIDT
MAYOR

BUREAU OF TRAFFIC
ENGINEERING
D.E. BERGSTROM
CITY TRAFFIC ENGINEER

420 S.W. MAIN ST.
PORTLAND, OR. 97204
503/248-4295

April 5, 1977

Oregon State Highway Division
Metro Section
5821 N.E. Glisan
Portland, Oregon 97213

Dear Mr. Street:

At the last Banfield HOV Lanes, Technical Advisory Committee Meeting of March 17, 1977, you requested a letter from the City of Portland stating our feelings on banning over-width vehicles (greater than 8 ft.) from the Metro Freeway System during the peak hours.

According to City Ordinance 16.30.020, this bureau has the authority to issue overdimensional permits pursuant to ORS 483, on behalf of the City of Portland.

For years this bureau has restricted all overdimensional loads from using city streets during the hours of 7-9 A.M. and 3-6 P.M., except in special circumstances. It is our feeling that overdimensional loads, especially over-width, impede safe and orderly traffic movement during the highly congested peak hours.

It has been this bureau's policy to except buses from any overdimensional requirements or permits.

In summary this bureau has and will continue to ban all overdimensional loads from city streets during the hours of 7-9 A.M. and 3-6 P.M..

We support any ban the Oregon State Highway Division may place on over-width loads during peak hours on State Highways in the City of Portland.

Sincerely,

D. E. Bergstrom
City Traffic Engineer

MWB:lw

66-1430
210

ROBERT W. STRAUB
GOVERNOR

Department of State Police

PUBLIC SERVICE BUILDING, SALEM, OREGON 97310

April 26, 1977

Mr. Robert N. Bothman
Assistant Highway Engineer
5821 N.E. Glisan Street
Portland, Oregon 97213

Dear Mr. Bothman:

Attached is a report from our Multnomah office outlining some of the recent problems our members have encountered on the Portland freeway system in the movement of over-sized vehicles during the rush hour traffic.

We support the Banfield Advisory Committee's recommendation that oversized vehicles be restricted from operating on the Portland freeway system during the rush hour.

Sincerely,

Robert R. Fisher, Superintendent

By E. E. Brandaw
Emil E. Brandaw, Captain
Traffic Division

Attachment

al

Jim:
Please Process with HOV TAC.
Bothman

c Klobe
Coulter
Hamilton
Hoard

FRI PRO DE
C.R.H.D. - METRO
APR 28 1977
FILE T/A

TIME 8:20AM

OFFICER'S REPORT

OREGON STATE POLICE

No. ...

Place Multnomah

County Multnomah

Subject HOV RECOMMENDATION

April 25 ... 1977

RESTRICTION OF OVERSIZE VEHICLES

Refer to form 3 report by Sergeant Paul D. Lovejoy dated April 15, 1977.

Since the inception of the restrictions on the Banfield Freeway for the HOV Lane on December 1975, we have experienced a large number of oversize mobile homes operating within the HOV area during the peak rush hour traffic.

The mobile homes have been traveling through the HOV Lane area utilizing one and partially two lanes on the freeway. The operator of the vehicle towing the mobile home either operates in the outside lane of travel with the left side of the oversize load extending into the adjacent lane causing the motoring public that is operating in the center lane to make a lane change into the HOV Lane to safely pass the mobile home thus being in violation or the mobile home would travel in the center lane of three lanes with the oversize vehicle extending on either side of the adjacent lanes. The public would either slow down not being able to pass this trailer causing the traffic to back up and become congested or the motorists would take chances to pass this trailer on either side. Some motorists would utilize the HOV Lane and again be in violation. These oversize movements cannot maintain a single lane in these narrow eleven foot wide lanes and they operate without a pilot car.

Writer has observed a number of oversize mobile homes being transported through the HOV Lane area. Writer particularly recalls the companies of Barrett and Morgan Drive Way operating within the HOV area.

Several members at the Multnomah Office have been contacted in relation to these oversize movements and they gave the following information.

One member on January 27, 1977, in the morning hours observed two oversize mobile homes being towed utilizing the outside lane and a portion of the center lane causing the public to operate in the HOV Lane to pass these vehicles. The trooper had halted a HOV violator further down the road and the violator stated he had to use the HOV Lane to move around these oversize vehicles. The trooper issued a citation to this motorist for being in violation of the HOV restriction and in a subsequent court trial in Multnomah County the magistrate found the defendant not guilty. The firm name on the mobile home company was not obtained.

Form 11-1001

TIME 8:30AM

Place Multnomah

OFFICER'S REPORT

OREGON STATE POLICE

2

No.

County Multnomah

Subject HOV RECOMMENDATION

April 25 19 77

RESTRICTION OF OVERSIZE VEHICLES

On January 15, 1977, at 10:30AM, our member assisted the Portland Police Bureau and the Oregon State Highway Department on Interstate 80N at 28th Street overpass with a disabled mobile home. The mobile home sustained two flat tires and blocked the outside lane for a period of time until the tires could be repaired.

On March 2, 1977, at 3:00PM, two of our members assisted with traffic direction at the westbound on-ramp to Interstate 80N from 82nd Street where a 14' X 65' mobile home became stuck in making the turn onto the ramp. The two members were tied up for two and a half hours until the trailer was freed. The company involved was Leisureland Mobile Homes, 2535 Salem Dallas Highway in Dallas, Oregon.

On April 19, 1977, one member issued a citation to a HOV violator and the violator related he passed an oversize mobile home. The member did observe an oversize mobile home traveling nearby but the company name was not obtained.

On April 19, 1977, at 7:00AM, another member observed a 14' double wide trailer operating westbound utilizing two complete lanes causing the motoring public to travel into the HOV Lane to go around the trailer. This trailer movement caused traffic to back up to the 82nd Street overpass. This same member observed on April 22, 1977, two Morgan Drive Way Company trucks towing 14' double wide mobile homes in the HOV Lane area.

On April 22, 1977, about 7:00AM, one member observed three 12' wide mobile homes traveling westbound utilizing one lane and partially another lane. The company name was not obtained. The same member observed a 14' wide mobile home being transported eastbound on Interstate 80N utilizing two lanes during the HOV restrictions on April 22, 1977.

On April 22, 1977, at 7:55AM, one member observed a National Trailer Convoy, 8700 Ellingsen #10, Wilsonville, Oregon, truck towing an oversize trailer. The mobile home was traveling onto Interstate 80N from Interstate 5 and traffic was backed up behind. Also the trailer could not maintain a single lane.

TIME 7:20AM

OFFICER'S REPORT

OREGON STATE POLICE

3

No. .....

Place Multnomah

County Multnomah

Subject HOV RECOMMENDATION

April 25 , 1977

RESTRICTION OF OVERSIZE VEHICLES

On April 25, 1977, at 7:05AM, writer issued a citation to an operator of a vehicle towing a 14' X 68' mobile home for Failure To Maintain A Single Lane. The operator was employed by National Trailer Convoy. This individual was operating eastbound on Interstate 80N straddling the center lane completely blocking the two outside lanes causing traffic to slow down and back up behind the trailer. The operator of this vehicle related he felt it was safer to take up two lanes as the other traffic could pass on the open lane.

The incidents that are mentioned are just a few that have been documented during the past few months.

James E Toddy

10-19, James E. Toddy, Corporal

JET/jkc

cc: For Captain Brandaw

U.S. GOVERNMENT PRINTING OFFICE: 1974 — 732 - 020

11-4-77

STATE COPY

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

CC: OSHD (H.S. Coulter)
Wash DC (HHO-32)

FINAL ACCEPTANCE REPORT

REGION NO.	REPORT NO.	COUNTY	DIVISION
10	2	Multnomah	Oregon

DATE OF REPORT	REPORT MADE BY	PROJECT NO.
11-4-77	C. T. Christianson, Area Engr	U-323(27)

COMPLETION DATE	ACCEPTANCE DATE BY CONTRACT AGENCY	TIME ELAPSED	CONTRACT TIME
*See Below	*See Below	*See Below %	*See Below

APPROVED EXTENSIONS	LOCATION
*See Below	Banfield Freeway, Portland

*The PR-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, has been submitted.

*A copy of the State's materials certificate is attached to the Division office copy of this report. There is compliance with section 1.23 of the Regulations pertaining to encroachments on the right-of-way.

REMARKS: *The project has been completed in reasonably close conformity with the approved plans and specifications including authorized changes and extra work.*

* CONTRACT	COMPLETION DATE	ACCEPTANCE DATE BY CONTR. AGENCY	TIME ELAPSED	CONTRACT TIME	APPROVED EXTENSIONS
8259	6-17-76	4-7-77	100%	160CD	30 CD
8355	11-24-76	3-4-77	117%	150CD	None

RECEIVED
STATE HWY ENGR
NOV 8 '77
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act

N.E. UNION AVENUE - N.E. 82nd AVENUE SEC. 11-8-77
COLUMBIA RIVER HIGHWAY
BANFIELD FREEWAY
cc: Kiesel

The purpose of this project was to restore a badly deteriorated pavement, install concrete median and shoulder barriers, impact attenuators and headlight glare shield. In addition to the structural and safety items, the roadway was re-striped to add median HOV lanes and eliminate the shoulders to increase the people carrying capacity of the facility. Emergency parking bays with telephone call boxes were added for stalled vehicles and emergency use.

Due to the special nature of the plastic paddle glare screen, that portion of the work was handled under separate contract.

COPY SENT
NOV 7 1977
Washington

A monitoring and evaluation study is underway to assess the operational aspects of the HOV facility.

Both contracts have been satisfactorily completed. Contract No. 8259 was completed at a total cost of $2,061,864.96 representing less than one% underrun. Contract No. 8355 (Glare Screen) was completed at a total cost of $151,330.80 representing a 1% underrun.

*NOTE: Not applicable for direct federal projects.

ACCEPTANCE OF PROJECT IS RECOMMENDED		ACCEPTED BY FEDERAL HIGHWAY ADMINISTRATION	
SIGNATURE: E. J. Valach for C.T. Christianson	Original signed by E. J. Valach Dist. Engineer	SIGNATURE: E. J. Valach	Original signed by E. J. Valach Dist. Engineer
TITLE: Area Engineer	DATE: 11-7-77	TITLE: District Engineer	DATE: 11-9-77

FORM FHWA-1446 B (12-73) FORMERLY PR-33E

Previous Editions of PR-33E Will Not Be Used.

8259-(

FORM APPROVED RCS HNO-30-02
OMB NO. 04-R2274

U.S. DEPARTMENT OF TRANSPORTATION • FEDERAL HIGHWAY ADMINISTRATION

STATEMENT OF MATERIALS AND LABOR USED BY CONTRACTORS ON HIGHWAY CONSTRUCTION INVOLVING FEDERAL FUNDS

(PPM 20-2 and PPM 40-4)

ALL CARD A — *To be completed by Washington Headquarters Personnel*

PART A *(To be completed by FHWA or State Highway Personnel (See instructions on reverse))*

STATE	COUNTY	FEDERAL PROJECT NO.	URBAN / RURAL
Oregon	Multnomah	U-323 (27)	URBAN X

ITEM	DESCRIPTION	UNIT	ROADWAY QUANTITY	BRIDGE QUANTITY (Over 20 ft.)
	CONSTRUCTION TYPE CODES		6201 Y003	
20	FINAL CONSTRUCTION COST	DOL.	1,857,184	
21	LENGTH OF PROJECT	MILES	4.798	

DATE STARTED: July 28, 1975
DATE COMPLETED: June 17, 1976
TOTAL NO. BRIDGES: 0

PART B *(To be completed by contractor - See instructions on reverse)* *(REMARKS: Attach plain sheet of paper)*

30	LABOR	TOTAL MAN HOURS: 41,777	GROSS EARNINGS: 441,462

CARD B	22	TOTAL COST OF ALL MATERIALS AND SUPPLIES	DOL.	699,595
	9	PETROLEUM PRODUCTS	GAL.	57,405
	1	CEMENT	BBL.	1,114
CARD C	2	AGGREGATES PURCHASED	TON.	
	92		CU. YD.	290
	3	BITUMINOUS MATERIAL	GAL.	512,880
	4	LUMBER	THSD BD FT.	10
CARD D	5	TIMBER PILING	LIN. FT.	
	7	REINFORCING-STEEL	LB.	6,707
	8	STRUCTURAL STEEL	LB.	
	10	EXPLOSIVES	LB.	
CARD E	11	READY-MIXED CONCRETE	CU. YD.	947
	12	PREMIXED BITUMINOUS PAVING MATERIALS	TON	30,394
	15	AGGREGATES PRODUCED	TON	
	95		CU. YD.	
CARD F	16	MISCELLANEOUS STEEL	LB.	73,938
	17	FENCING	LIN. FT.	230
	18	GUARDRAIL	LIN. FT.	32,465
	19	BRIDGE RAIL	LIN. FT.	
CARD G	23	FINAL CONTRACT AMOUNT FOR SIGNS	DOL.	65,296
	24	FINAL CONTRACT AMOUNT FOR LIGHTING	DOL.	65,268

Blocks 48-70 to be completed by FHWA Washington Headquarters Personnel

CULVERT ITEMS

	ITEM	SIZE (In.)	LGTH. (Lin. ft.)
CARD H	6	CORRUGATED STEEL CULVERT	
CARD J	13	CONCRETE PIPE	8 303
CARD K	14	CLAY PIPE AND DRAIN TILE	
CARD L	25	CORR. ALUMINUM CULVERT	
CARD M	26	CAST IRON PIPE	

FORM FR- 47 PREVIOUS EDITIONS ARE OBSOLETE
(REV. 9-74)

8254

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

October 5, 1977

Salem, OR. 97310

FILE:

FROM: Gary A. Potter, Manager
Environmental Section

SUBJECT: Banfield HOV Lanes
Air Quality Report

TO: F. B. Klaboe
Asst. Director for Operations

R. N. Bothman, Administrator
Metro Division

Attached are copies of the subject report. I feel that both of you should be aware of what it says because of the sensitive nature of the report, and because of the technicalities surrounding the conclusions.

Basically, the air quality conclusions are:

(1) Pollutant levels have increased along the Banfield.

(2) Pollutant levels have decreased along the arterials.

(3) The Banfield is moving more people with less pollution emitted per person.

There are many possibilities for misinterpretation, misquotes, and misunderstanding in this report, in spite of a dedicated and thorough effort on the part of my air quality staff to write a tight, yet meaningful report.

Your comments would be appreciated. Could I have them by October 12?

If Jan, I have no comments. What are we going to do with the Banfield HOV's?

GAP:cjh

Attachment

cc: E. S. Hunter w/attach

RECEIVED
DOT OPERATIONS
OCT 5 - '77
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

NOTED
F. B. KLABOE

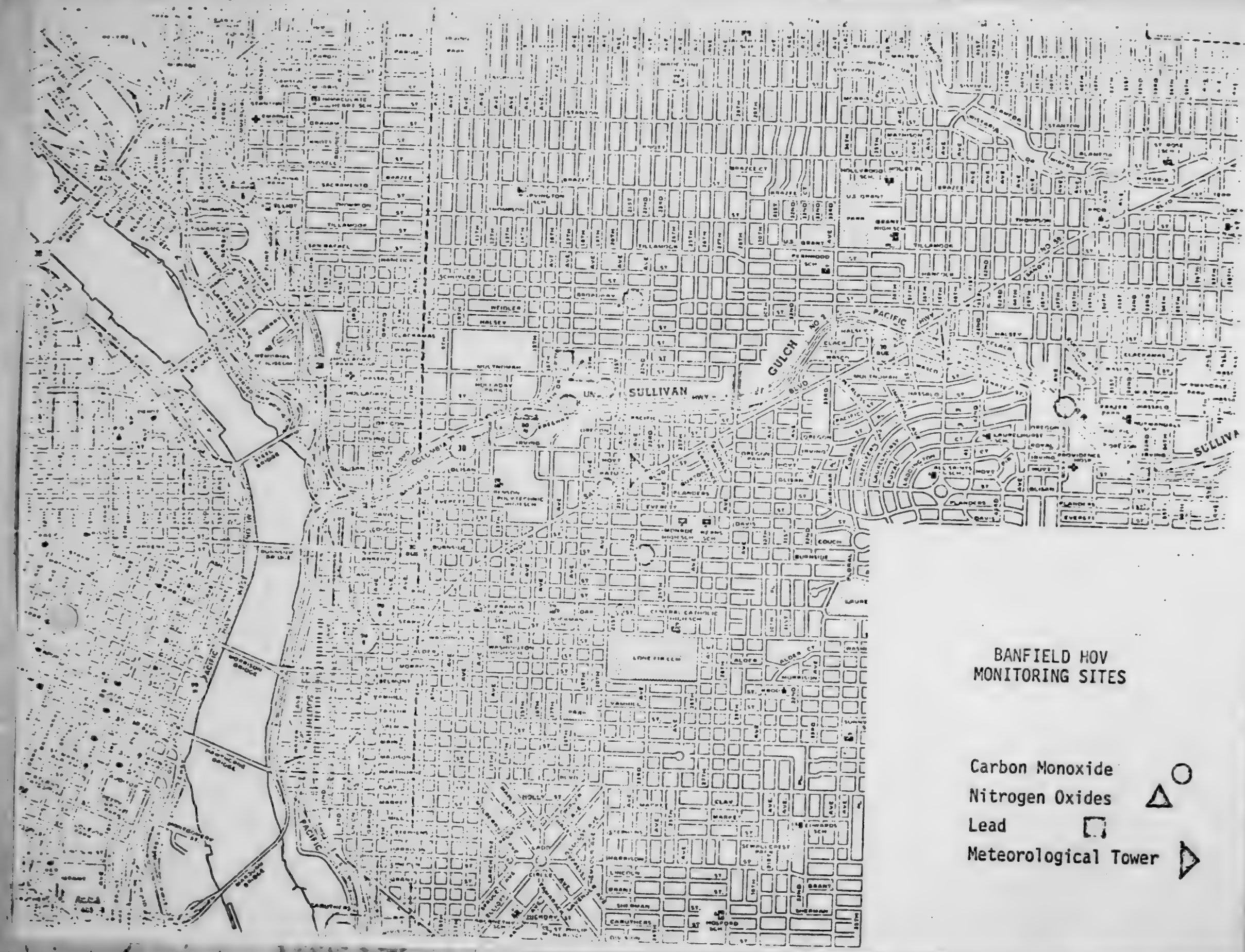
Introduction

The purpose of this report is to assess the short-term air quality impacts resulting from the operation of the High Occupancy Vehicle (HOV) lanes in the Banfield freeway corridor. The study of air quality consisted of two discrete elements: (1) the collection and interpretation of air quality data in the study area as indicated on the following map and (2) the application of pollutant emission factors[1] to traffic data collected concurrent with this study. The results of the air quality study are presented as a comparative analysis of two "alternatives." The Build alternative refers to the HOV lanes as operated during the course of this study, while the No-build alternative represents what would have occurred without the HOV lanes. The later condition was based on historical traffic data. The collection of ambient air quality data was initiated shortly after the opening of the HOV lanes. Monitoring sites were selected along major arterials and thus reflect the source dependent contributions of these facilities.[2]

Carbon monoxide (CO) was monitored most extensively under this program. Three sampling sites were used to assess the effects of the major arterials (Broadway, Burnside and Sandy) on the Banfield corridor airshed. Two additional sites were selected to monitor the direct effects of the HOV lanes. A sixth CO sampling site was located near Lloyd Center. This site was also used to measure total suspended particulate (TSP), lead (Pb) and nitrogen oxides (NOx). One additional site adjacent to the Banfield freeway was used to collect supplemental meteorological data.

[1] U.S. Environmental Protection Agency, AP-42, Supplement No. 5 For Compilation of Air Pollutant Emission Factors; Second Edition; December, 1975.

[2] Such data reflects the absolute pollutant concentration, that is, the sum of both local source emissions and background. Background is defined as the concentration of pollutants at a site which is unaffected by any single local source such as an existing highway, parking lot or industry.


GULCH
SULLIVAN
BANFIELD HOV
MONITORING SITES
Carbon Monoxide
Nitrogen Oxides
Lead
Meteorological Tower

The comparative analysis of alternatives was based primarily on the results of a total emissions analysis (See pages 10-12). Traditionally such an analysis is based on average daily traffic which yields results in tons of pollutants per year (i.e., total annual pollutant emissions). For the purposes of this report, this proceedure was modified by using peak hour traffic data, thus resulting in total annual emissions for peak hours only.

The effects of the HOV lanes on lead concentrations and photochemical oxidants are briefly discussed in the summary. A description of the existing air quality in the Portland area and a history of the monitoring network are included in the text. A summary of the monitoring data is included in Appendix D.

Background Climatological Information

The effect which a pollutant source has on nearby receptors is strongly influenced by local meteorological conditions. The thermal structure of the atmosphere (i.e., the relationship between air temperature and height) is one such meteorological parameter effecting pollutant concentrations. Under normal meteorological conditions air temperature decreases with increasing height above the earth's surface at a rate of approximately $5.4^{o}F$ per 1000 feet. This condition is known as the normal adiabatic lapse rate and is typified by rising warm air being replaced by cooler air. However, conditions in the Portland area are such that thermal inversions are a common occurance. A thermal inversion, in which air temperature increases with height, strongly resists vertical motion and tends to suppress turbulence. The thermal inversion is therefore of particular interest in air pollution, since it does not allow the pollutants to disperse. Thermal inversions occur in the Portland area as frequently as nine out of ten nights during the late summer, fall, and early winter months for periods of up to 12 hours

on each of these days.[3] If inversions exist aloft, they tend to act as a "lid;" that is pollutants generated on the surface will rise until such a "lid" is reached. If inversions develop near the ground, little if any upward dispersion of pollutants will occur.

Another factor that influences pollutant dispersion is wind shear. Wind shear is defined as the variation of horizontal wind speed with height. Close to the ground the effects of friction retard the wind flow. This reduction of wind speed close to the ground tends to slow the lateral dispersion of pollutants. Thus, wind speed, to some extent, will determine the concentration of pollutants in a given volume of air. In general, higher wind speeds create more favorable conditions for dispersion of pollutants.

Vertical temperature structures and wind shear are related to atmospheric stability. A stable atmosphere tends to increase pollutant concentrations while an unstable atmosphere tends to minimize the concentrations by providing greater dillution.

Another climatological function influencing levels of air pollution is the abundant sunlight in Portland associated with long summer days. The high daily influx of solar radiation is a necessary ingredient of photochemical oxidants (smog). Solar radiation plays an important part in the formation of secondary pollutants and is also one of the primary factors that affect atmospheric stability near the ground.

Relating stability classifications to wind speeds and estimated net radiation was first accomplished by Pasquill in 1962. Pasquill's stability classification was based on six classes for day and night conditions. These

[3]Howard, Needles, Tammen, & Bergendoff, I-205 Final Environmental Impact Statement, 1974, p. 3-21.

Table 1. Pasquill Stability Classifications

A - Extremely unstable conditions
B - Moderately unstable conditions
C - Slightly unstable conditions
D - Neutral conditions[a]
E - Slightly stable conditions
F - Moderately stable conditions

Surface Wind Speed (at 10m)	*Daytime Conditions*			*Nighttime Conditions[b]*	
	Incoming Solar Radiation			*Thin Overcast or ≥4/8 Cloudiness[c]*	*≤3/8 Cloudiness*
m/sec	*Strong*	*Moderate*	*Slight*		
<2	A	A-B	B	-	-
2-3	A-B	B	C	E	F
3-5	B	B-C	C	D	E
5-6	C	C-D	D	D	D
>6	C	D	D	D	D

a Applicable to heavy overcast, day or night.

b Nighttime conditions refers to the period one hour before sunset to one hour after sunrise.

c The degree of cloudiness is defined as that fraction of the sky above the local apparent horizon which is covered by clouds.

stability categories are designated A through F.[4] See Table 1 for Pasquill's categories.

Recent research has shown that stability Class F does not occur near roadways, due to the thermal and mechanical mixing caused by traffic.[5] Worst case stability classes in the Portland area for Transportation related computer models are assumed D or E.[6]

Local topography, rivers, and man-made structures alter the normal wind flow patterns and thus affect the dispersion and transportation of pollutants. The area affected is variable and dependent on the size, shape, and texture of the obstructions. Meteorological data should be collected as close as possible to pollutant monitoring sites to accurately record the wind flow patterns.

Air Quality Standards

Primary pollutants are those chemical components which are emitted directly into the atmosphere by a source. Carbon monoxide (CO), hydrocarbon (HC), sulfur dioxide (SO_2), and Total Suspended Particulate (TSP) are all considered as primary pollutants. Secondary pollutants are those formed in the atmosphere as a result of reactions such as hydrolysis, oxidation, and photochemistry. Nitrogen dioxide (NO_2) and the entire class of photochemical oxidants comprise the largest part of this classification.

Transportation is the predominant source of carbon monoxide and hydrocarbons and accounts for about 50 percent of total pollutant emissions from all

[4]Highway Air Quality, Implementation Package No. 76-5, U.S. Department of Transportation.

[5]Memorandum, Michael Lash, Director of Environmental Policy; "Project Air Quality Considerations"; U.S. D.O.T.; June 16, 1977.

[6]Worst case stability classes are those conditions which would conceivably exist more than once annually and would create a situation condusive to the build-up of pollutants in a given locality.

Table 2. Estimated Annual Emissions of Air Pollutants in the United States - 1974

		Pollutant (Millions of Tons)					*Source*	
	Source Category	*CO*	*HC*	*NOx*	*Particulates*	*SOx*	*Total*	*Percent*
I.	Transportation	73.5	12.8	10.7	1.3	0.8	99.1	50
II.	Fuel Combustion in Stationary Sources	0.9	1.7	11.0	5.9	24.3	43.8	22
III.	Industrial Process Loss	12.7	3.1	0.6	11.0	6.2	33.6	17
IV.	Solid Waste Disposal	2.4	0.6	0.1	0.5	0.0	3.6	2
V.	Miscellaneous	5.1	12.2	0.1	0.8	0.1	18.3	9
U. S. Total		94.6	30.4	22.5	19.5	31.4	198.4	
By Percent		48%	15%	11%	10%	16%		100%

Source: Environmental Protection Agency.

sources. See Table 2.[7]

In an effort to develop air quality criteria to protect against potential adverse effects, the U.S. Clean Air Amendments of 1970 established two levels of air quality standards. These are primary standards which are designed to protect human health and secondary standards which are established to protect human welfare. Table 3 presents the National Ambient Air Quality Standards established by the Clean Air Act (as amended - 1977). It should be noted here that under provisions of the Clean Air Act, states were also given the option of establishing their own ambient air quality standards provided that such standards are at least as stringent as the Federal standards. Oregon's DEQ has done this and adopted the Federal primary standards as our primary standards, except for TSP and SO_2 where the lower Federal secondary standards were adopted as the state primary standards.

The standards were established to protect the most sensitive groups within our society--children and the aged. The areas where these sensitive groups live, play or work are identified as critical receptors. The effects of various concentrations of pollutants are listed in Tables 4, 5, and 6.

Existing Air Quality

The existing air quality in the study area (summarized in Table 7) has been determined for six categories of pollutants using data collected by the DEQ and recent data collected by the Oregon State Highway Division. These pollutants include CO, HC, NO_2, TSP, Ozone (O_3) and lead. The data on CO, NO_2, TSP, and lead were obtained through the field study for this project.

[7]Highway Air Quality, Implementation Package No. 76-5, U.S. Department of Transportation.

Topographic features in the project area range from isolated projections (buildings, hills) to depressions on level ground (canyons). As air passes over the natural or man-made obstacles, it is forced to change its pattern and thus turbulence is created. In the project study area, Sullivan's Gulch is the major terrain feature and will effect wind flow throughout the majority of the study area. Sullivan's Gulch will tend to channel winds parallel to the Gulch except during periods of extreme stability.

The meteorological data used in this study was collected by one Meteorology Research, Inc. (MIR) unit. This unit is a self-contained weather system. The weather station measures and accurately ($\pm$ 2%) records the wind direction, wind speed, and air temperature. The data is recorded by a marker on a pressure-sensitive white moisture-resistent chart. The accuracy has been tested for speeds of less than 0.75 mph to more than 100 mph. More detailed information can be found in Appendix D.

The meteorological data was put into table format using the computer program WIND2. The output of WIND2 is a Frequency Distribution Table suitable for use in constructing wind roses. A wind rose (Figure 1) is a circular diagram of the percent frequency which winds from any given direction occur. The length of each line is proportional to the frequency of the wind from that particular direction. The output prom WIND2 and the corresponding wind roses can be found in Appendix D. The wind roses were constructed only for winds less than 3 mph, since the highest pollutant concentrations are normally recorded during periods of low wind speed.

A visual comparison of the wind roses for the two years shows no correlation except for the months of March and April. Possibly the winter storm season effected the local wind patterns enough to alter seasonal trends.

The CO samples were collected by grab bag air quality samplers. A container is used to collect samples of ambient air by filling 12 sample bags,

Table 3

Summary of Existing Air Quality
in Project Study Area

Pollutant	Air Quality Standard[1]	Absolute Pollutant Concentrations	
		Average (All Sites)	Maximum (At any Site)
Carbon monoxide	10 mg/m^3 8-hour avg.	2.9	12.0
Hydrocarbons	160 ug/m^3 averaged over 3-hour period from 6 to 9 a.m.	-	300[2]
Nitrogen dioxide[4]	100 ug/m^3 annual avg.	65[3]	96[3]
Total Suspended Particulate[4]	60 ug/m^3 annual avg.	68	200
Photochemical oxidants	160 ug/m^3 one hour maximum	-	180[2]
Lead [4]	3 ug/m^3 one month average	1.4	2.1

1. See Table 4 for complete list of standards
2. Estimated worst case
3. Monthly average shown
4. Data obtained at one site only

Table 4

NATIONAL AIR QUALITY STANDARDS

POLLUTANT	DESCRIPTION	SAMPLING PERIOD	LOWEST CONCENTRATION FOUND TO PRODUCE ADVERSE HEALTH EFFECTS	PRIMARY STANDARD	MARGIN OF SAFETY	SECONDARY STANDARD
Sulfer Oxides	Result primarily from the combustion of sulfer containing fossil fuels. Their presence has been associated with the increased incidence of respiratory diseases, increased death rates and property damage.	Annual arithmetic mean 24-hour maximum* 3-hour maximum*	115 ug/m^3 300-1500 ug/m^3 occuring for three to four days** ---	80 ug/m^3 365 ug/m^3 ---	30% 0 to 76% ---	60 ug/m^3 260 ug/m^3 1,300 ug/m^3
Particulate Matter	Particulate matter, either solid or liquid, may originate in nature or as a result of industrial processes and other human activities. By itself or in association with other pollutants, particulate matter may injure the lungs or cause adverse effects elsewhere in the body. Particulates also reduce visibility and contribute to property damage and soiling.	Annual geometric mean 24-hour maximum*	80-100 ug/m^3** 300 ug/m^3**	75 ug/m^3 (DEQ) 60 ug/m^3 260 ug/m^3	6 to 25% 25 to 40% 13%	60 ug/m^3 150 ug/m^3
Carbon Monoxide	Carbon monoxide is a by-product of the incomplete burning of carbon-containing fuels and of some industrial processes. The most abundant source of this pollutant is the internal combustion engine. It decreases the oxygen-carrying ability of the blood and, at levels often found in city air, may impair mental processes.	8-hour maximum* 1-hour maximum*	12-17 mg/m^3 58 mg/m^3	10 mg/m^3 40 mg/m^3	17 to 41% 31%	Same as Primary Same as Primary
Photochemical Oxidants	Photochemical oxidants are produced in the atmosphere when reactive organic substances, chiefly hydrocarbons, and nitrogen oxides are exposed to sunlight. Photochemical oxidants irritate mucous membranes, reduce resistance to respiratory infection, damage plants and contribute to the deterioration of materials.	1-hour maximum*	200 ug/m^3 (maximum daily value)	160 ug/m^3	20%	Same as Primary
Hydrocarbons	Hydrocarbons in the air come mainly from the processing, marketing and use of petroleum products. Some of the hydrocarbons combine with nitrogen oxides in the air to form photochemical oxidants. The hydrocarbons standard therefore, is for use as a guide in devising implementation plans to achieve the oxidant standard.	3-hour maximum* (measured between 6 and 9 a.m.)	Adverse health effects noted only after reaction to form photochemical oxidant.	160 ug/m^3	---	Same as Primary
Nitrogen Oxides	Nitrogen oxides ususally originate in high-temperature combustion processes. The presence of nitrogen dioxide in the air has been associated with a variety of respiratory diseases. Nitrogen dioxide is essential in the natural production of photochemical oxidant.	Annual arithmetic mean	110-156 ug/m^3 (mean 24-hour concentration over six month period)	100 ug/m^3	15 to 36%	Same as Primary
Lead***	Airborne lead results primarily from automotive emissions. Symptoms of mild lead intoxication include loss of appetite, drowsiness and abdominal pain. Ingestion is the prime method leading to elevated blood-lead level's. Airborne lead, by settling out, may contaminate diet and dust thus becoming potentially harmful	One Month Average*	---	3 ug/m^3	---	---

* Not to be exceeded more than once annually.

** Combined effect of both gaseous phase and particulate.

*** No National Standard for this pollutant exists, however DEQ has adopted a lead standard for projects in Oregon.

ug/m^3 = micrograms per cubic meter

mg/m^3 = milligrams per cubic meter

Table 5 Effects of Carbon Monoxide[a]

Concentration ppm	Exposure Time	Effects
5	20 minutes	Reflex changes in the higher nerve centers
5 to 10	-	Average levels of CO in most large cities
30	8 hr or more	Impairment of visual and mental acuity (five percent carboxyhemoglobin)
70 to 100	-	Maximum levels occurring in some large cities
200	2 to 4 hr	Tightness across the forehead, possible slight headache
500	2 to 4 hr	Severe headache, weakness, nausea, dimness of vision, possibility of collapse
1,000	2 to 3 hr	Rapid pulse rate, coma with intermittent convulsions, and Cheyne-Stokes respiration
2,000	1 to 2 hr	Death

[a] All effect levels pertain to healthy individuals. Specific effect levels for individuals who for other reasons are approaching the levels of tolerability are not available.

Source: Interstate Air Pollution Study, Phase II Project Report, Part 4 - Effects of Air Pollution. U. S. Department of Health, Education, and Welfare. December, 1966.

Table 6 Effects of Nitrogen Dioxide

Concentration ppm	Exposure Time	Effects
0.1	-	Limit of acceptability for coloration effect in aerosol-free air with viewing distance of 10 miles.
0.25	-	Limit of acceptability for coloration effect in normal metropolitan area air with viewing distance of 10 miles when the visibility is 20 miles.
0.5	3 months	Increased susceptibility to infection in mice by certain aerosolized bacteria.
<0.5	12 to 19 days	Significant growth reduction in tomato and bean seedings. No visible lesion damage, Chlorosis of leaves reported.
1 to 3	-	Odor threshold.
2.5	7 hr or more	Bean, tomato, and *nicotiana glutinosa* leaves damaged with white lesions occurring.
3	4 to 8 hr	Pinto bean leaf damage.
3.5	2 hr	Increased susceptibility to infection in mice by certain aerosolized bacteria.
13	-	Nasal and eye irritation noticeable

Source: Interstate Air Pollution Study, Phase II Project Report, Part 4 - Effects of Air Pollution. U. S. Department of Health, Education, and Welfare. December, 1966.

Table 7. Effects of Ozone

Concentration ppm	Effects[a]
0	Ozone considered radiomimetic - no safe level
0.01	Odor threshold of ozone
0.02 for 8 hr	Damage to tobacco leaves begins
0.03 for 8 hr	Significant damage to tobacco leaves
0.05	Nose and throat irritation threshold
0.05 for 1 hr	Damage to tobacco leaves begins
0.10 for 1 hr	Significant damage to tobacco leaves Pine tree needle tips burned
0.05	Threshold for eye irritation in sensitive people (ambient oxidant)
0.15[b]	Generally stated eye irritation threshold for normal people (ambient)
0.10	Reduction in oxygen consumption and blood oxygen tension (concentration) levels of emphysema patients, compared to effects on some patients breathing filtered air (ambient)
0.1 to 0.25 long term	Shortens life span, increases mortality of guinea pigs
0.10 for 8 hr	Definite symptomatic effects in sensitive people
0.20 for 3 hr	Decrease of visual acuity
0.60	Cough irritation threshold, pronounced nose and throat irritation
1 for 1-1/2 hr	Coughing, irritation, severe exhaustion
3 to 12 for few hr	Lethal to small laboratory animals

---

[a] As determined from laboratory experiments using ozone except where otherwise noted. Ambient measurements are for "total oxidants."

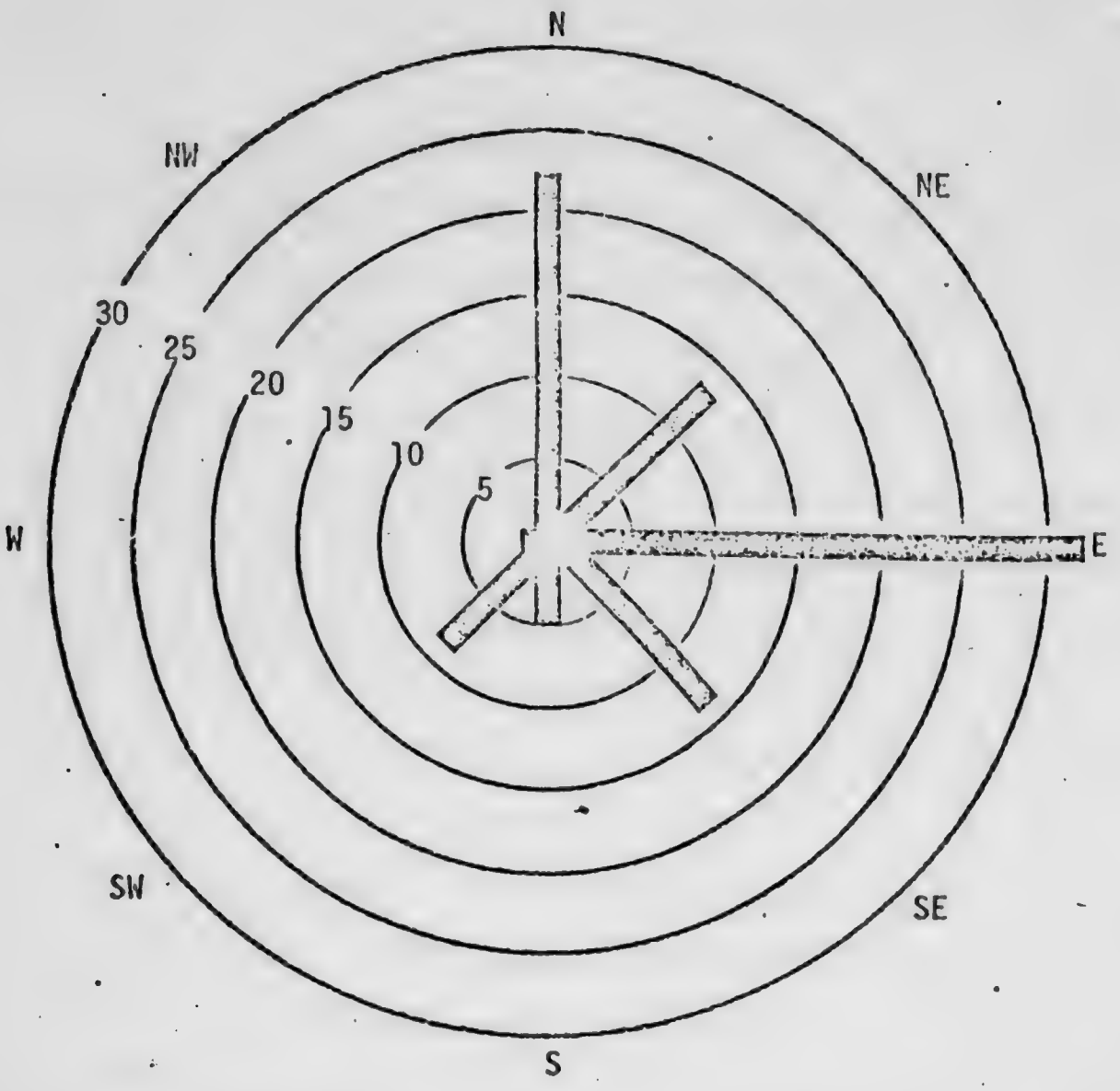
[b] 0.25 ppm by the phenolphthalin method.

Source: Interstate Air Pollution Study, Phase II Project Report, Part 4 - Effects of Air Pollution. U. S. Department of Health, Education, and Welfare. December, 1966.

FIGURE 1

WIND ROSE
for
January 1977
STATION NO. 261483

NOTE: % calms distributed



RELATIVE FREQUENCY OF WIND DIRECTION
(PERCENT)

one each hour, and storing these bags until they can be analyzed. They were analyzed by an Ecolyzer and the concentration were recorded to the nearest part per million.

Measurements of carbon monoxide concentrations were made during late autumn and winter, encompassing the months that typically have the highest stagnation periods.[8] The monitoring station at 19th and Multnomah was used as control for this project. This site was located furthest from the major transportation arterials. The area is characterized by high commercial, residential, and light industrial development surrounded by major transportation corridors.

From Table 8 it can be seen that the average local concentrations of CO during the twelve months monitored for the 19th and Multnomah site was 2.9 mg/m^3 (8-hour standard of 10 mg/m^3). The average concentrations near the major parallel arterials was slightly higher at 3.6 mg/m^3. The twelve month average for the two sites located in the Banfield Cut recorded significantly higher readings and averaged 5.4 mg/m^3 for the twelve months monitored. These two sites located within the right-of-way never recorded a reading as high as the one-hour CO standard of 40 mg/m^3 and only recorded readings higher than the 8-hour standard on 17 days during the twelve months monitored (Table 9). (See Appendix D for hourly CO data.) Generally, pollutant concentrations at locations within the highway right-of-way are not compared to air quality standards. It is significant that these two sites located within the mixing cell of the Banfield Freeway did not record a higher percentage of reading above standard. None of the other monitoring sites recorded a reading in excess of the 8-hour standard.

The concentrations measured along the major parallel arterials were highest for the road with the highest traffic volume. Although no violations were recorded, readings of 6 mg/m^3 and 7 mg/m^3 were not uncommon.

[8] Oregon State Highway Division Monitoring Station at Clark School.

The reason the Banfield Freeway does not show a direct proportional increase in CO concentration with traffic increases may be explained by the fact that CO emissions decrease as engine speed is increased. The emission of CO is therefore significantly influenced by the time of idle and low-speed operation. Low-speed operation is more representative of the arterial streets. By attracting traffic to the Banfield Freeway and off of the arterial streets, average travel speed will increase and CO emissions will decrease.

The one continuous monitor of Nitrogen Oxides (NO_x) was located at 19th and Multnomah. The recorded values for NO_2 are well below the standard of 100 ug/m^3 (annual mean). Continuing present control strategy in the Portland metropolitan area violation of the NO_2 standard will probably never be recorded.

Nitric oxide (NO) is formed when combustion takes place at a high enough temperature to cause a reaction between the nitrogen and oxygen in the air. Temperatures this high are reached only in efficient combustion processes, such as those found in automobile engine cylinders. Nitric oxide, which is relatively harmless, will oxidize to nitrogen dioxide (NO_2), which is a considerably more toxic gas. The formation of NO_2 takes place during the influence of high solar radiation. The radiation is a necessary ingredient to cause NO and O_2 to react.

High speeds and heavy acceleration produce the major portion of the NO_x emissions. By attracting traffic to the Banfield Freeway from the arterial streets average travel speed will increase and thus NO_x emissions will also increase.

There are no physical sources of photochemical oxidants per se. They are formed in the atmosphere as a result of photochemical reactions between hydrocarbons and oxides of nitrogen. The chemical reactions which form these photochemical products are extremely complex and are still not fully understood. Some of the components of smog known to irritate the eye are formaldehyde acrolein, peroxyacyl nitrate, and ozone.[9]

[9] Highway Air Quality, Implementation Package No. 76-5, U.S. Department of Transportation.

TABLE 8

MONTHLY CARBON MONOXIDE AVERAGES

Date	47th & Banfield	19th & Multnomah	M.P. 1.46	20th & Sandy	21st & Broadway	22nd & Burnside
10/75	9.2	5.4	8.9	6.9	5.6	-
11/75	7.0	3.9	6.7	5.1	3.8	3.2
12/75	6.2	2.3	4.4	3.4	2.4	3.8
1/76	5.2	2.7	4.5	3.3	2.6	3.8
2/76	3.3	1.8	3.7	2.2	1.8	2.6
3/76	4.3	2.2	3.2	2.4	-	-
Ave 75-76	5.9	3.1	5.2	3.8	3.2	3.4
10/76	6.2	-	5.3	4.3	3.3	3.8
11/76	6.7	3.2	6.7	5.1	5.2	4.2
12/76	6.0	2.3	4.3	3.3	2.3	3.9
1/77	5.9	3.8*	5.5*	4.4	2.6	4.2
2/77	4.4	2.7*	4.1*	3.3	2.6	3.3
3/77	4.6*	1.6*	3.1*	-	-	-
Ave 76-77	5.6	2.7	4.8	4.1	3.2	3.9
Ave 75-77	5.8	2.9	5.0	3.9	3.2	3.6

*The starting time of the twelve hour sampling period was changed from 0700 hrs to 1200 hrs.

47th & Banfield and 19th & Multnomah sites are located within the highway right-of-way.

TABLE 9

8 HOUR CARBON MONOXIDE VIOLATIONS[1]

Date	47th & Banfield	19th & Multnomah	M.P. 1.46	20th & Sandy	21st & Broadway	22nd & Burnside
10/75	4	0	2	0	0	0
11/75	2	0	2*	0	0	0
12/75	1*	0	0	0	0	0
1/76	0	0	0	0	0	0
2/76	0	0	0	0	0	0
3/76	0	0	0	0	0	0
10/76	0	0	0	0	0	0
11/76	1*	0	0	0	0	0
12/76	0	0	1	0	0	0
1/77	2*	0	2	0	0	0
2/77	0	0	0	0	0	0
3/77	0	0	0	0	0	0

[1]To violate CO 8-hour standards the value must be exceeded more than once annually.

*one violation had a missing hour, visual trend inspection was used to determine value.

47th & Banfield and 19th & Multnomah sites are located with the highway right-of-way.

All of these pollutants share three properties. They are all formed by chemical reaction of other pollutants ("chemical"). The reactions forming then proceed much more rapidly in areas with intense sun light ("photo"). They are extremely reactive chemical substances acting as oxidizing agents ("oxidants"). Due partially to the fact that photochemical process requires residence time in the atmosphere, photochemical oxidant is not considered on the local level, but, is more a regional problem. In that photochemical oxidant is a regional pheonominon, it is difficult to determine the exact contribution of this particular project. If the control strategy for the entire Portland metropolitan area continues at its present or a more strignent level, violations of the ambient air quality standard for oxidant should be eliminated.

A small reduction in the emissions of NO_x according to J. D. Caplan will not produce any reduction in photochemical oxidant without a corresponding large reduction in HC. [10] The toal peak hour emissions analysis Table 10 shows a regional decrease in HC emissions. A slight reduction in photochemical oxidant potential would result. The reduction in HC emissions is due to the increase in speed of the vehicles diverted from the arterial streets to the Banfield Freeway.

Total suspended particulates (TSP) were monitored at the 19th and Multnomah sampling site with one High-Vol sampler. This type of sampler uses a vacuum pump 50 (cfm) to pull an air sample through filter paper (8½x11") which removes the particulates from the air stream. The filter is then transported to the laboratory for analysis. The particulates collected on the filter paper can be weighed to determine the total particulate concentration and then the particulate can be analyzed chemically to determine the lead concentration. A sample is taken for a 24-hour period from midnight to midnight. From Table 2 it can be seen that Transportation is generally not

[10] "Smog Chemistry Points Way to Rational Vehicle Emission Controls," SAE Transactions, J. D. Caplan; Vol. 74, 1966.

considered one of the major contributors to TSP. However, the combustion of automotive fuel does produce particulate matter due to additive lead that is considered a health hazard. At present, there is no Federal standard for ambient lead, although one may soon be promulgated. The Oregon Department of Environmental Quality (DEQ) has adopted at State standard of 3 ug/m^3 (monthly average). A violation of the existing DEQ lead standard was never recorded during this study. The present phase-down in the amount of lead used as an additive in gasoline will not only reduce ambient lead concentration but will allow the continued use of catalytic convertors as a control in vehicle emissions of carbon monoxide and hydrocarbons. From the available data it was not possible to find any correlation between ambient lead concentrations and existing traffic volumes. Without this correlation and the fact that lead emissions are not particularly speed dependent, no conclusions have been drawn as to the effect of the operation of the HOV lane on ambient lead concentrations.

Total Emissions Summary

Predictions of total peak hour emissions factors for the two project alternatives were made using an Oregon State Highway Division computer program, ALTEF (ALTitude adjusted Emission Factors). ALTEF is a Fortran program which calculates emission factors for all automobile-related pollutants using EPA methodology outlined in the publication, Supplement No. 5 For Compilation of Air Pollutant Emission Factors, (AP-42); Second Edition; December, 1975. Input data consists of study year, county, vehicle mix, percent of vehicles in hot start operation, speeds and the percent of vehicles equipped with catalytic convertors. Output consists of two tables for each set of input parameters. The first table (Figure 2) is a matrix for carbon monoxide, total hydrocarbons and nitrogen oxides for cold start operation from 0 to 40 percent and ambient temperatures from 20^{o} to 80^{o}F. The second table (Figure 3) lists all other

VEHICLE EMISSION FACTORS — STUDY YEAR: 1985 — COUNTY: DESCHUTES
MOBILE SUBELEMENT 5 — LOW ALTITUDE

TYPE	PERCENT	SPEED	CATALYTIC CONVERTOR DATA: BEGIN	THRU	PERCENT EQUIPPED DURING	AFTER	HOT START PERCENT
LDV	69.00	45	1975	1978	75.0	100.0	27
LDT	29.00	45	1975	1978	50.0	75.0	27
HDVG	1.00	43	CATALYSTS NOT CONSIDERED				
HDVD	1.00	43	CATALYSTS NOT CONSIDERED				

PERCENT COLD OPERATION

MPH	POL	0	5	10	15	20	25	30	35	40
10	CO	9.27	13.02	16.78	20.54	24.30	28.05	31.81	35.57	39.33
	HC	2.85	3.21	3.57	3.92	4.27	4.63	4.98	5.33	5.69
	NO	5.83	5.81	5.78	5.76	5.73	5.71	5.68	5.66	5.63
15	CO	9.44	13.05	16.66	20.27	23.87	27.48	31.09	34.70	38.31
	HC	2.84	3.25	3.65	4.06	4.47	4.87	5.28	5.69	6.09
	NO	5.75	5.73	5.71	5.69	5.66	5.64	5.62	5.60	5.58
20	CO	9.47	13.01	16.55	19.09					
	HC	2.82	3.26	3.63	3.79					
	NO	5.67	5.65	5.63	5.6					
25	CO	10.20	12.91	15.62	18.					
	HC	3.03	3.26	3.49						
	NO	5.54	5.54	5.56						
30	CO	10.37	12.77	15.17						
	HC	3.05	3.25	3.45						
	NO	5.51	5.50	5.						
35	CO	10.47	12.57							
	HC	3.05	3.2							
	NO	5.43								
50	CO									
	HC									
	NO									
55	CO									
	HC									
	NO									
70	CO									
	HC									
	NO									
75	CO									
	HC									
	NO									

Note: all emission factors are expressed in grams per mile.

Pollutant: CO = Carbon monoxide
HC = Hydrocarbons
NO = Nitrogen oxides (NO_X)

Ambient air temperature

HC FACTOR INCLUDES 1.50 GM/MI CRANKCASE AND EVAPORATIVE EMISSIONS.

(27) Percent of vehicles operating in a "hot start" condition. (applicable to vehicles with catalysts only.)

(40) Percent of vehicles operating in a "cold" start condition. As can be seen, values for each five percent increment from 0 to 40 percent are given.

The remainder of vehicles excluding heavy duty trucks are in a "hot stabilized" condition. (see page 7 for definitions.)

KEY TO VEHICLE TYPES

LDV = Light Duty Vehicles (Gasoline-powered passenger automobiles.)

LDT = Light Duty Trucks (Gasoline-powered trucks with gross vehicle weight of 6500 pounds or less.)

HDVG = Heavy Duty Vehicles (Gasoline-powered trucks over 6500 pounds GVW.)

HDVD = Heavy duty Vehicles Diesel-powered.

Figure 2 ALTEF Program Sample Output

Figure 3

ALTEF Program

Sample Output for Miscellaneous Pollutants

VEHICLE EMISSION FACTORS — STUDY YEAR: 1985 — COUNTY: DESCHUTES
AP-42 SUPPLEMENT 5 — LOW ALTITUDE

TYPE	PERCENT	SPEED	CATALYTIC CONVERTOR DATA: BEGIN	THRU	PERCENT EQUIPPED DURING	PERCENT EQUIPPED AFTER	HOT START PERCENT
LDV	60.00	45	1975	1978	75.0	100.0	27
LDT	29.00	45	1975	1978	50.0	75.0	27
HDV2	6.00	43	CATALYSTS NOT CONSIDERED				
HDV3	5.00	43	CATALYSTS NOT CONSIDERED				

VEHICLE EMISSION FACTORS
FOR MISCELLANEOUS POLLUTANTS

POLLUTANT		EMISSION FACTOR GM/MI
1. TOTAL EXHAUST PARTICULATE:		0.1729655
2. LEAD -		
LESS THAN 0.3 MICRON:		0.0022054
0.3 TO 1.0 MICRON:		0.0008826
1.0 TO 9.0 MICRON:		0.0017651
GREATER THAN 9.0 MICRON:		0.0039715
TOTAL LEAD:		0.0088255
3. TIRE PARTICULATE:		0.2549999
4. TOTAL SULFUR OXIDES:		0.2917999
5. SULFURIC ACID	(MINIMUM):	0.0122524
	(MAXIMUM):	0.0361713

emission factors which are not a function of ambient air temperature or operating temperature. The output from ALTEF is included in Appendix D. The emission factors calculated by ALTEF were used in a Total Peak Hour Annual Emission Analysis. The equation used in this analysis was:

$$\frac{\text{Tons of Pollutant}}{\text{Year}} = \text{volume} \times \text{roadway length} \times \text{emission factor} \times \text{conversion fact}$$

Volume - Peak hour traffic volumes
Eastbound, P.M.

Roadway Length - distance in miles over which the traffic volumes are effective.

Emission factor - computered by ALTEF
grams/vehicle-mile

Conversion factor - converts from grams to tons.
also from days to years.

The results of the analysis are listed in Table 10.

The traffic data used in the air quality analysis was for the p.m. peak hour between 39th and 74th on the Banfield. The p.m. peak hour traffic was used because the traffic volumes were the largest. However, the possible advantages from the change in traffic due to the operation of the HOV Lanes are less in the p.m. than in the a.m. as noted in the traffic analysis. Therefore, any benefits shown by the p.m. traffic will be reflected even more so by the a.m. traffic.

The tonage of pollutants per year figures for the Build (i.e., the HOV lanes as constructed) and the No Build alternatives do not accurately reflect some of the subtle traffic differences involved in the operation of the HOV lanes. The fact that there is no specific traffic data from the period before the HOV lanes were built makes a comprehensive lane-by-lane analysis impossible. (Lane-by-lane traffic data was collected during HOV operation.) It is only through the comparison of lane-by-lane traffic data for the periods before and after HOV operation that the minor changes in air quality could have been determined.

From the Analayses of Traffic Flow characteristics it was shown that 390 fewer vehicles are using the city streets. Rather than add the pollutant burden produced by the arterial streets to that for both Build and No Build, a simplified approach was used. Since the HOV Lanes have reduced traffic on the arterial streets, this reduction was subtracted from the pollutant burden produced by the Build Alternative.

Thus, the tonage per year figures for the Build Alternative (minus Arterial Reduction) was computed by subtracting the tons of pollutants produced by the vehicles diverted from the arterial streets from the Build Alternative.

An attempt was also made to compare the efficiencies of the Build and No Build Alternatives. This was accomplished by calculating the pounds of pollutant per person-year. A summary of these calculations can be found in Table 11. From the table it can be seen the HOV Lanes are moving more people while producing 8% less pollution per person.

Summary

The Banfield HOV lanes project provided a unique opportunity for an air quality study. The concept of high occupancy vehicles is a tool described in the State Implementation Plan and the Indirect Source Rules for reducing transportation related pollutants. These documents assumed that carrying more people in fewer vehicles would reduce the pollutant source strength resulting from a particular transportation facility. However, the actual experiment with the HOV lanes did not substantiate this fact. A peak hour analysis (the only effective time of HOV lane usage) for a "Build" and "No Build" Alternative showed 2% more pollutants produced by the Build Alternative. The increase in CO and HC emissions is due to a 3% increase in vehicle trips on the Banfield Freeway. This increase in vehicle trips did not produce an identical percentage increase in CO or HC emissions. An increase in average vehicle travel speeds, noted in all lanes during HOV operation partially offset the potential increase in CO and HC emissions resulting from increased vehicle trips.

However, for those critical receptors located along the Banfield Freeway, the HOV lanes have added slightly to the potential for elevated pollutant concentrations.

In examining the traffic data for the parallel arterials, there has been an overall reduction in pollutants as a result of the HOV lane operation. The reduction in pollutants due to the 3% decrease in traffic on the arterial streets more than offsets the increase in pollutants due to the 3% increase in volumes on the Banfield Freeway. However, on an actual vehicle number basis, more vehicles were attracted to the Banfield Freeway than were reduced from the arterial streets. The Banfield Freeway has been able to absorb this growth without adding significantly more pollutants to the regional air shed. The reason the pollutant levels have not risen higher is due to the speed dependency of emission factors. (CO and HC emission factors are significantly less for high speeds.)

Based on a regional total emissions analysis the Banfield HOV Lanes have beneficially reduced total emissions by about 14% while carrying 10% more people. While the major region-wide emission reduction is best for CO, the reduction in HC and NO_x emissions should reduce the potential for photochemical oxidant potential. The recorded lead concentrations are well below standard and do not appear to be appreciably affected by the regional traffic changes noted in this study.

Conclusions

1. Total emissions of all automotive pollutants have shown a short-term increase immediately adjacent to the Banfield freeway, based on a comparative total emissions analysis. Increases in specific local concentrations could be expected to exhibit a similar, but not necessarily significant increase. During the study period no violations of the air quality standards for CO, NOx or lead were measured at any location outside the highway right-of-way.
2. A significant short-term reduction in total pollutant emissions resulting from vehicle operation on major arterial streets in the study area was noted. The net total emissions from these facilities and the Banfield freeway was also less than what would have been predicted without the HOV lane operation.
3. The Banfield freeway with HOV operation moves more people with less pollution emitted on a per-person basis.

TABLE 10

BANFIELD HOV STUDY

Total PM Peak Hour Emission Summary
Study Year 1977

Project Alternatives	Carbon Monoxide		Hydrocarbons		Nitrogen Oxides	
	Tons/Yr.	Percent	Tons/Yr.	Percent	Tons/Yr.	Percent
No Build	157.79	100	22.34	100	15.19	100
Build (Banfield Traffic Only)	158.99	101	22.79	102	15.83	104
Build (Minus Arterial Reduction)	122.65	78	19.08	85	14.59	96

Percent shows each pollutant relative to the No Build Alternative.

TABLE 11

BANFIELD HOV STUDY

PM Peak Hour Efficiency Analysis
Study Year 1977

Project Alternative	Carbon Monoxide lbs/person	Carbon Monoxide Percent	Hydrocarbons lbs/person	Hydrocarbons Percent	Nitrogen Oxides lbs/person	Nitrogen Oxides percent
No Build	0.184	100	0.026	100	0.018	100
Build (Banfield Traffic Only)	0.170	92	0.024	92	0.017	94
Build (Minus Arterial Reduction)	0.131	71	0.020	77	0.016	89

lbs/person - the number of pounds of pollutant emitted for every person traveling the corridor in a year.

Percent - shows each pollutant relative to the No Build Alternative.

#8259

9

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM 97310

ROBERT W. STRAUB
GOVERNOR

RECEIVED
STATE HWY ENGR
SEP 23 '77
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

September 8, 1977

9-23-77
cc Bateman

Mr. Norman A. Cowell
3230 SE 175 Place
Portland, Oregon 97236

Dear Mr. Cowell:

Let me put the Banfield restricted lanes in perspective.

The Banfield today has exactly the same number of regular lanes as before. The restricted lanes were created by reducing lane widths and eliminating shoulders.

Portland must reduce downtown auto usage in the future because of severe pollution problems. The restricted lanes are an experimental project to determine if such lanes will increase use of car pools and buses.

The most recent quarterly report on the Banfield experiment shows:

1. The Banfield Freeway has absorbed a 9 percent growth in vehicles in the past 15 months of the study, and is moving 28 percent more people during the rush hours.

2. The HOV lanes are carrying 20 percent of the persons using the freeway during the rush hours, and 5 percent of the vehicles.

3. Speeds in the regular auto lanes are averaging 33 m.p.h. during the p.m. peak hour, compared to 30 m.p.h. in 1975; and 36 m.p.h. during the a.m. peak hour, compared to 38 m.p.h. in 1975 (this is with the 9 percent growth in vehicles).

4. Ridership in both buses and carpools continues to increase. The "Banfield Flyers" are carrying 525 patrons, compared to 300 in January 1976. The carpools have increased from 106 to 525. These statistics were taken during the critical, peak-rush hour.

COPY

Again, the Banfield project is an experiment and is not intended to be a solution. Within the next year, a long-range project to improve the Banfield will be selected from a half-dozen alternative proposals now being studied.

Sincerely,

Governor

RWS:cb
dictated but not read

bcc: Dept. of Transportation

DOT-Highway

Portland Oregon
Aug. 26. 77.

RECEIVED
AUG 29 1977
Governor's Office

Covenor Robert Straub

Dear Sir,

This letter is in regards to the H.O.V. or Diamond Lanes on I. 80 N, between 82,nd ave, and 16,th, ave, in Portland Oregon. My understanding was, when this lane addition was made, it was too relieve traffic cong-estion on this Highway. To date all this has done is add too the prob-lem. I drive this route every day, morning and night and there sits the H.O.V. lanes with no one using them, while the other two lanes are bump-er to bumper and stopped. Iuse a C.B. Radio , and all those people are really disturbed the way the Highway Dept. has set these lanes up. Ithink and so does everyone else , this a very discriminatory act on the part of the Highway Dept. I know there has been traffic studys done on these lanes since they were installed , and in my estimation the H.O.V. lanes have been in service long enough to justify they are not doing the job they were supposed to do . I believe the time has come to try this the other way, by opening the H.O.V. lanes to everyone. It is my understanding that our Highway Engineers are to plan the Highways so as to eliminate traffic problems , not create them. As Govenor of this fine State of Oregon I trust you will give this your undevided ATTENTION.

Thank You

012208

Yours Truly Norman A Cowell

Norman A Cowell
3230 S.E. 175 pl.
Portland Ore.
97236

Please prepare draft reply for Governor's signature
by 9-7

RECEIVED
STATE HWY ENGR
AUG 30 '77
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

#2257

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON, D.C. 20590

August 25, 1977

IN REPLY REFER TO:
HCP-20

NOTED
E. S. HUNTER

Oregon Department of Transportation
Transportation Building
Salem, Oregon 97310

Attention: Mr. H. S. Coulter
State Highway Engineer

Gentlemen:

This is to acknowledge receipt of your unsolicited proposal entitled "Extension of Monitoring and Evaluation Program Banfield-HOV Lanes."

A comprehensive evaluation of your proposal will be initiated. As soon as the evaluation is completed, you will be informed of the Federal Highway Administration's position with respect to your proposal.

To facilitate ready identification, your proposal has been given an identification number UP 2010. Please refer to this number on any future related correspondence.

Sincerely yours,

R. L. Stanley, Chief
Procurement Management and
Support Division
Office of Contracts & Procurement

RECEIVED
STATE HWY ENGR
AUG 29 '77
REFER TO
Mocking
FOR
Info | Invest | R/D | D/R | Sign | Act | File

cy Bob Bothell
cy P. Turner
Hunter

cy Bud George
8-29-77

RECEIVED
TECHNICAL SERVICES
AUG 29 '77
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

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H VERSTEEG

8259

9

THE CITY OF
PORTLAND
OREGON

August 19, 1977

OFFICE OF
THE MAYOR
NEIL GOLDSCHMIDT
MAYOR

1120 S.W. FIFTH AVE.
PORTLAND, OR 97204
503 248-4120

Robert A. Burco, Director
Oregon Department of Transportation
State Highway Building
Salem, Oregon 97310

Dear Mr. Burco:

This is in response to your letter of May 26 summarizing recent Oregon Transportation Commission actions on the Banfield HOV Lanes project, and requesting City assistance in implementing additional HOV incentive programs. I apologize for the tardiness of this response, but related matters including, primarily, the legislative action on the HOV question, made an earlier response inappropriate. I would like to take this opportunity to address several concerns about the Banfield HOV Lanes project, including the actions of the Commission and the request which you have made of the City.

Decision-making Process

First, I would like to raise a question concerning the process the Commission is apparently following in addressing the Banfield HOV Lanes project. In the past, it has been the practice of the Transportation Commission, and the Department, to seek City of Portland review and approval on all major decisions affecting transportation and transportation projects within the City. This process has generally worked well, is consistent with the Oregon Action Plan, and has resulted in what I consider to be a strong working relationship with the Metropolitan Section of the Department. In the case of the Banfield project, the City of Portland provided initial approval for the project, and since its implementation, several Bureaus in the City have participated on the Technical Advisory Committee which has been charged with the monitoring of the project. I believe that this process has been shown to be an effective means of project development, implementation, and review. Recently, however, the Commission has chosen to seemingly circumvent this process by giving specific directions to the Highway Division on changes to the operating characteristics of the project.

I would like to make two points about this action by the Commission. First, and understandably, this action places the Highway Division in a rather awkward position vis-a-vis the City since they have consistently used the Technical Advisory Committee as the "sounding board" for modifications to the project, and have relied heavily on

NOTED
F. B. KLABOE

the combined expertise of the Committee to reach decisions on the project. It has been my impression that the Committee has responded expeditiously, yet carefully, in considering changes in the project's operation, and while the Committee's decisions have not always agreed with my personal view, or those of the City staff involved, the decisions have been based upon thorough examination of the technical information available on the project. I have routinely relied upon the City's representation through this Committee for information on the progress of the project. Apparently, the Commission has developed a different view of the role of the Technical Committee, a role which seems somewhat adverse to the process established by the Highway Division.

Second, one of the HOV Lane changes directed by Commission - the redefinition of a car pool - is significant, since it would effectively expand the capacity of the Banfield HOV Lane during the peak hour to a point where the "exclusive" benefits of the project would be nearly lost. In short, the project would become a freeway expansion project rather than an HOV Lane project, with associated environmental and transportation impacts. While I understand that the Technical Advisory Committee has recommended against making this change, I would hope that the Highway Division and the Commission would recognize the City's interest in a change of this magnitude, and seek the City's viewpoint before implementing such a modification. I would also hope that the Commission would seek legal counsel on the consistency of such a change in terms of both DEQ regulations and the provisions of the National Environmental Protection Act (NEPA).

The other two operating changes directed by the Commission are not as significant, but I wish to comment, nonetheless. With respect to taxi use, I am of the opinion that taxis should be viewed as a form of para-transit and as such, should be allowed full use of the lane. This has consistently been the position of the City Planning Bureau representative on the Technical Committee. With regard to the hours of operation, any changes should reflect the objective of maximizing the use of the lanes, and the Highway Division and Technical Advisory Committee have consistently tried to accomplish this. It makes sense to me to concur with the Committee's technical evaluation.

City Perspective

The second broad concern which I would like to address is a clarification of my position on the HOV Lanes project. As I mentioned, the Portland City Council approved the project prior to its initiation, and City staff has been involved throughout the technical monitoring process. Moreover, during the closing days of the legislative session, the City Council voted informally (4 to 1) to oppose the then-pending legislation which was intended to terminate this or any other HOV Lane project on the Banfield. Thus, the entire Council has twice

registered its position on the project. After the close of the legislative session, I was quoted in the newspaper as having stated that I was amenable to a change in car pool definition (from three to two persons). Since this was not an accurate reporting of my comments, I would like to set the record straight at this time.

Attached you will find a copy of the letter which I sent to Representative Otto regarding the Banfield project. The relevant point in the letter is my position that changes in the operating characteristics of the HOV Lane should be accomplished on the basis of technical review of the project, and that such review is the responsibility of the Technical Advisory Committee which has had this responsibility throughout the life of the project. If the Technical Committee reaches a conclusion that a change is warranted, based on the information available, and pursuant to achieving greater use of the project within the context of its objectives, then I would certainly have little argument with the recommendation, although in certain instances I might request that the City Council formally or informally review the change. The point is that, to date, the Technical Committee has served the objectives of the project well, and if the Committee indicates that a change is appropriate, then I would probably agree to the change.

Additionally, and equally important, I believe it is critical that the Banfield corridor project decision, now due in the spring of 1978, be allowed to occur in an atmosphere free of any threats of litigation. As I understand it, changes in the car pool definition to two persons will likely result in a legal challenge on the basis of a violation of the provisions of the National Environmental Protection Act. I think it would be very unfortunate, as well as difficult, for the City, state and federal agencies to reach a decision on the Banfield corridor project if the corridor becomes the subject of litigation.

Project Purpose

As for the project, itself, I think it is well worth remembering that the HOV Lanes experiment was not undertaken as an autonomous project, but rather as part of a larger program with established policy objectives. First, the CRAG Interim Transportation Plan designates the Banfield as the location of a major transit corridor serving the region's east side. Project development activities have been underway for some time, and are currently aiming at a spring, 1978, decision on the Banfield project. The current HOV Lane project represents an important initial step toward establishing a transit orientation in the corridor - an orientation which the subsequent, capital intensive project can build upon. Radical departures from the transit and high-occupancy vehicle characteristics of the present project would certainly not be a positive step toward reinforcing the regional transportation plan and policy in the Banfield Corridor.

Additionally, since the Banfield serves as an important link to the downtown area, and the transit services currently available on the project directly serve downtown, it is important to view the HOV Lanes project in the context of the established objectives and policies in the downtown. As you are no doubt aware, the City has reacted to DEQ directives regarding clean air by developing a Downtown Clean Air Plan. This Plan is being implemented through a variety of mechanisms including, but not limited to, a downtown parking lid, transit ridership goals, changes in on-street parking and the Mall. The current HOV Lanes project is clearly consistent with the objectives of the Downtown Clean Air Plan since it actively encourages the use of transit and car pools - concentrating on the peak work hours. Changes in the operating characteristics of the project which will result in a lessening of transit and car pool incentives are consequently not in the interests of the City, and inconsistent with efforts to improve air quality in the downtown and throughout the region's air shed.

Additional Programs

Fourth, and last, I wish to respond to the requests in your letter regarding the immediate implementation of programs which will mean increased incentives for use of the Banfield HOV lanes. Of the four programs which you list, only one requires direct City participation - the Downtown Parking Program. Since the date of your letter, the City Traffic Engineer, working with Tri-Met, has recommended this program to the City Council which, in turn, adopted it for implementation on September 1st of this year. Applications for this program are currently being accepted. The materials which have been prepared for this program define a car pool in the same way as the Banfield project currently does - three persons. Obviously, I do not believe we can effectively support the Banfield project if such basic characteristics as the car pool definition differ, and I do not believe we should expect the public to react favorably to, or understand, such inconsistencies.

In summary, I do not believe we have in any way exhausted the ways in which we can improve the utilization of the existing Banfield project. I am hopeful that the Downtown Car Pool Pricing Program will provide assistance, and I join with you in encouraging Tri-Met and Multnomah County to implement the other projects called for in your letter. I understand that Tri-Met is aggressively pursuing the implementation of the additional park-and-ride station and the bus re-routing plan, and that implementation of these projects is not far away. As I stated earlier, I believe the HOV Lanes project should be viewed as an interim but vital project, not only becuase it is providing short-term relief to Banfield congestion, but also because it represents a first step in the direction which we must take on many regional projects. I believe the ODOT staff has done an outstanding job of

monitoring the project and adjusting its operation to maximize its use to both users and non-users. It is essential that the Oregon Transportation Commission not only carefully consider the ODOT analysis and recommendations, but more importantly, provide the policy direction which the region and the City needs and expects. I look forward to working with you, the Department, and the Commission in pursuit of these mutual objectives. Thank you.

Sincerely,

Neil Goldschmidt
Mayor

NG:DW:hm

Attachment

cc: Members of the Oregon Transportation Commission

THE CITY OF
PORTLAND
OREGON

OFFICE OF
THE MAYOR
NEIL GOLDSCHMIDT
MAYOR

1220 S. W. Fifth Ave.
Portland, Oregon 97204
503 248-4120

July 1, 1977

Glenn E. Otto
State Representative
1225 E. Columbia
Troutdale, OR 97060

Re: Bill 578

Dear Representative Otto:

Following our several conversations on the phone concerning the management of the high occupancy vehicle lane, I would like to set down in writing what my feelings about it are.

From the very beginning of this development, it has been an experiment. It is lacking some features that a first quality HOV system needs, the most predominant of which is a full length of corridor capability connecting to intersecting highways. In this case, the Banfield HOV lane doesn't have the capability to connect to the Gateway area or directly to the Steel Bridge. In any event, as an experiment to try to reduce congestion and air pollution, I thought from the beginning it was worth the effort and the limited amount of funds necessary to make the experiment possible -- particularly if the total number of auto lanes was not reduced. A great deal of discussion as ensued subsequently about how the lane ought to be managed. Let me express to you my feelings about that.

First, I think it is very important that the Department of Transportation continue to experiment to try to get the best possible use of the lanes that the public has paid for.

Second, I have supported the use of these lanes by cabs whether driving with passengers or without, and regardless of the hours. Very simply stated, I think

they belong in those lanes as a public conveyance.

Third, we have never objected, to my knowledge, to any change in hours of operation on the grounds of the first premise that these lanes are experimental and that the State should have the right to manage them to get the maximum use.

Fourth, I have been very concerned that any change that is made, not subject the corridor to litigation. And let me explain this concern: The original lanes were placed there using roadway maintenance funds and City/ Federal Aid Urban Funds, and this expansion was accomplished by filing a negative declaration under the National Environmental Protection Act. It was possible to do so because it was believed that if anything, the HOV lane would improve congestion and air quality. Had we just tried to add an additional lane, a year to two-year process might have conceivably ensued because of the time it takes to do a National Environmental Protection Act filing with all the public hearings and alternative analysis that have to be done. If litigation should now occur because of some administrative action by the State Department of Transportation, I think we run the risk of paralyzing current efforts to improve that corridor. As you probably know, nearly $90 million has been set aside for Banfield corridor improvements, both transit and highway. It would be critical during that period not to have litigation threatening a new investment, and I am afraid that the Department of Transportation at the federal level may perceive that litigation over the current busway activities prejudices further development of that kind or any other kind in the corridor.

Let me summarize where I am. Specifically with regard to adding cabs or reducing the passenger requirement from three to two persons, so long as the State Department of Transportation is able to avoid litigation on those subjects, I have no problem with them taking those steps as they have taken other steps to change the operation of the HOV lane. Should they choose at the future to change the hours, passenger requirements, or any other operational feature that in their judgment would

improve the public benefit, they will have my support. So long as ODOT does not impair the near term decision-making process to invest Mt. Hood transfer funds to make the permanent improvements there that are necessary to serve all of the people, both East County, City of Portland, and visitors to our community, they will have my support.

Sincerely,

Neil Goldschmidt

NG:cm

cc: Doug Wright ✓
Glenn Jackson
Bob Bothman

#8259

HOV Lanes

M E M O R A N D U M

To: Board of Directors

From: Steve McCarthy
Acting General Manager

Date: August 19, 1977

Subject: Incentives to Increase Use of HOV Lanes

1. The Downtown Parking Program is on its way, with permits being issued now for September and October. Over 10,000 informational pieces have been circulated to downtown work sites to maximize participation and encourage carpooling. To date, 220 applications for downtown Parking Permits have been received.

2. Effective September 6, three morning trips and two evening trips of Line #90-Banfield Flyer/Mall 205 will be extended to 221st and Burnside to increase ridership on these peak-hour buses.

3. A new Park & Ride location in Gresham, the Tri-Cinema Theatre, and the lot at the Rockwood United Methodist Church at 178th and S. E. Stark will be served by the extension. Line #91-Banfield Flyer will continue to serve Mall 205 and Silver Skate Ice Arena lots.

4. Line #91-Banfield Flyer will continue to provide service from the Multnomah Kennel Club, Mt. View Christian Church, and 181st and Halsey lots.

5. In addition, we are continuing to examine all possibilities for encouraging use of the HOV lanes by other lines traveling the Banfield.

SRM/nh

#92159

TRI-COUNTY
METROPOLITAN
TRANSPORTATION
DISTRICT
OF OREGON

TRI-MET

PACIFIC BUILDING
520 S.W. YAMHILL STREET
PORTLAND, OREGON 97204
(503) 238-4844

1

copy - Klabon
8-22-77
fm

August 19, 1977

Mr. Robert A. Burco, Director
Oregon Department of Transportation
Salem, Oregon 97310

Dear Bob,

As you know, Tri-Met has met the schedule our staff proposed in response to your May 26th letter requesting immediate implementation of incentive programs to increase the utilization of the Banfield High Occupancy Vehicle Lanes. The specifics of the new program, which are important steps in the consistent progress toward the success of the HOV lanes, are contained in the enclosed memo.

Since the Downtown Parking Program is available to commuters traveling in carpools of three or more persons, opening the HOV lanes to two-person carpools would be inconsistent; it would be inconsistent, as well, with the principle of the lanes increasing the Banfield's capacity for passengers rather than the Banfield's capacity for vehicles.

Similarly, reducing the hours the lanes are restricted to high-occupancy vehicles would be taking away an incentive to ride-sharing with one hand, while the City and Tri-Met are extending one with the other. Especially since, as I understand it, ODOT's traffic counts and speed studies indicate the three-hour period is justified, shortening the time of HOV operation would be entirely inconsistent with the incentives we've just implemented.

We do not feel strongly about the number of occupants required for taxis to use the lane.

The jurisdictions involved with the lanes worked hard to accomplish the success of the project. Though negative perceptions persist, the lanes are working, as we all know. Our recent incentives represent a considerable investment of cooperation with other jurisdictions and of our own resources. We do not wish to abandon that investment.

RECEIVED
AUG 23 1977
OFFICE
DIRECTOR of TRANSPORTATION

Tri-Met supports continuing the present regulations applying to the HOV lanes.

Sincerely,

Gerard K. Drummond
President
Board of Directors

Enclosure
cc: Transportation Commission

#8259

8

DATE: August 18, 1977

TO: Oregon Transportation Commission

FROM: F. B. Klaboe
Chief of Operations

SUBJECT: Banfield HOV Lanes

Enclosed are copies of correspondence referring to this matter. As you can see, the City of Portland and Tri-Met are instituting several new incentives to enhance the use of these lanes.

It is my recommendation that no further action on your part is necessary at this time and that the Commission allow the City and Tri-Met to move ahead on their plans.

This matter is not on the agenda for the August meeting.

FBK:srb

Enclosures

bc: Robert A. Burco
R. N. Bothman
H. S. Coulter
Walt Barrie
C. W. Head

MULTNOMAH COUNTY OREGON

OFFICE OF THE CHAIRMAN
BOARD OF COUNTY COMMISSIONERS
ROOM 606 COUNTY COURTHOUSE
PORTLAND, OREGON 97204
(503) 248-3308

COUNTY COMMISSIONERS
DON CLARK, Chairman
DAN MOSEE
ALICE CORBETT
DENNIS BUCHANAN
MEL GORDON

August 15, 1977

Mr. Robert A. Burco, Director
Department of Transportation
135 Transportation Building
Salem, Oregon 97310

RE: Response to Oregon Transportation Commission on HOV Lanes

Dear Mr. Burco:

In response to the ODOT inquiry on the Banfield HOV lanes, Multnomah County has participated in the review of the HOV lanes through the Banfield HOV Technical Advisory Committee and has kept informed of the experience with the lanes.

The Banfield HOV experiment provides a welcome step in the direction of better utilization of the existing system and the conservation of energy. More efficient use of transportation facilities is a goal of both the national government, as stated in the Transportation Systems Management Program, and the Columbia Region Association of Governments, as stated in the CRAG Goals and Objectives and the Interim Transportation Plan.

The HOV lanes provide an opportunity to break away from the one-car/one person work trip routine which is so costly in terms of energy waste, provision of highway facilities, environmental damage and neighborhood disruption. Data on the functioning of the lanes has shown the ability to carry more people in the freeway while speeds for the overall traffic flow increased. The lanes have been beneficial to East Multnomah County through providing an incentive for carpooling and the introduction of Banfield Flyer bus service. The incentive program for further HOV use should prove the lanes even more successful in promoting carpooling.

Continuation of the HOV lanes will provide a helpful, energy efficient transportation improvement until the Banfield Transitway Project is completed.

RECEIVED
AUG 16 1977
OFFICE
DIRECTOR of TRANSPORTATION

Sincerely,

Donald E. Clark

Donald E. Clark
Chairman

cc; Members, Transportation Commission
DC:jan

BANFIELD FREEWAY

High-Occupancy-Vehicle Lanes

Status of Carpool Incentives

August 1977

The following programs and projects are designed to support the HOVL project by providing additional incentives to carpool or ride the bus, and are in the process of being developed:

1. Carpool parking in the Portland central business district

   The city of Portland has passed an ordinance to provide drivers of cars carrying three or more occupants parking in six-hour meters, all day, for a $15 a month permit fee. Drivers can park beyond the six-hour limit at about half the normal cost.

   On August 8, Tri-Met distributed advertisements and brochures describing the new program which will go into effect on September 1.

2. Two new park-and-ride lots will be in use on September 1, in the east county area at the following locations:

   221st Avenue and Burnside (Quad Cinema Theater) in Gresham

   178th Avenue and Stark (Methodist Church)

3. Starting September 1, buses on Line No. 90 will be altered to extend to Gresham and will serve the two new park-and-ride lots.

4. Tri-Met drivers have been instructed to use the HOV lanes if they can move safely into it. This is contrary to the original orders given to many bus drivers using the Banfield Freeway.

ODOT
RNB/ebg
8/12/77

DEPARTMENT OF JUSTICE

Memorandum

TO: F. B. Klaboe
Chief of Operations

DATE: August 5, 1977

FROM: Walter L. Barrie
Assistant Attorney General and Counsel

SUBJECT: HOV Lanes

You have requested me to give you a report dealing with the legal questions raised by Mayor Goldschmidt and Vernon Rifer of the Oregon Environmental Council concerning reducing the Banfield HOV car pool occupancy requirement from three to two persons. You attach the Mayor's letter of July 1, 1977 to Representative Otto and his memo to Messrs. Bergstrom, Mallory and Wright of July 13, 1977 and Mr. Rifer's letter of July 18, 1977 to Bob Burco which you indicate contain the "legal questions" I am to comment on.

So far as I can discern from the Mayor's correspondence and Mr. Rifer's letter they raise no specific legal questions. The Mayor merely stresses that he wants ODOT to avoid litigation when it makes changes in the HOV operation. He doesn't say what, if any, legal problem he is specifically concerned about. Mr. Rifer, on the other hand, says he wants formal advance notice of any Commission meeting on the HOV lanes so that the OEC can "raise legal and administrative issues."

I have not been requested by ODOT to enter into discussions with the Mayor or negotiate with Mr. Rifer concerning what they have in mind and since I am your legal counsel and not an administrator I think it would be inappropriate for me to do so without being requested.

In the meantime, since I possess no clairvoyant powers I can only guess what legal problems the Mayor and Mr. Rifer have in mind.

(1) There is no question but that ODOT is subject to DEQ's indirect source permit requirements.

ORS 468.020
468.320
468.410
OAR 340-20-100 et seq.

(2) ODOT must comply with ORS chapter 183 (Administrative Procedures Act) should it choose to amend the HOV lane person requirement from three to two.

(3) There may be objections from OEC or some other group that insufficient environmental impact study has been done, that the negative statement was insufficient, etc. This kind of attack may rely on the case of Pacific Legal Foundation v. Burns, decided in August of 1976 involving the utilization of metered ramps on the Santa Monica Freeway for carpool and bus preferential treatments. I believe this case is distinguishable from our situation and I will not waste your time with a long analysis here since it may never be raised.

(4) If ODOT had chosen to add an additional lane both east and west open to all traffic instead of just for experimental HOV use an environmental impact statement may have been necessary. Now that ODOT has reduced the hours of operation the extra lane is virtually open to all traffic. And since it has been in operation for two years it may be charged that its experimental character is a subterfuge to avoid an EIS and more extensive DEQ study requirements. This attack would find further support by an ODOT decision to reduce passengers from 3 to 2.

(5) DEQ never really gave ODOT an indirect source permit to begin with although the record of correspondence between DEQ and ODOT supports a DEQ waiver which ODOT was entitled to rely upon. Still, if a lawsuit were initiated against ODOT on HOV this issue can be expected to resurface.

This memorandum was prepared by legal counsel in anticipation that litigation is reasonably likely to occur and is also intended as a communication within a public body of an advisory nature. It is intended to be confidential and should be treated as a public record which is exempt from disclosure under ORS 192.500.

If you have further questions regarding this matter please let me know. Also, if you have further information of any specific legal issues raised concerning the HOV lanes I will be happy to prepare a supplemental memorandum.

WLB:sjb

RECEIVED
DOT OPERATIONS
AUG 8 '77
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

STATE HIGHWAY BUILDING, SALEM, OREGON 97310

DATE: July 21, 1977

TO: R. N. Bothman, Administrator
Metropolitan Section

FROM: F. B. Klaboe
Chief of Operations

SUBJECT: Banfield HOV Lanes

During the last Commission meeting, the Commission instructed us to research the legal questions concerning the initiation of the original HOV lanes, as outlined in my letter to Walt Barrie (copy attached). The Commission would also like a report on the efforts accomplished and proposed by the City and Tri-Met to encourage a higher use of the HOV lanes under existing standards. They would also like to get a statement from the official bodies of those several organizations involved in the HOV lanes on their attitudes regarding the changes proposed.

I would like you to attempt to provide both these items to me by August 15 so I can combine them with Walt Barrie's report and send the package to the Commission prior to their next meeting on August 23.

In case you haven't received them, I am attaching copies of three letters on this matter we recently received.

FBK:srb

Attachments

cc: Robert A. Burco
H. S. Coulter
Walt Barrie

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

STATE HIGHWAY BUILDING, SALEM, OREGON 97310

DATE: July 21, 1977

TO: Walt Barrie
Chief Counsel

FROM: F. B. Klaboe
Chief of Operations

SUBJECT: Banfield HOV Lanes

During the last Commission meeting, the subject of the HOV lanes on the Banfield again came up and the Commission was presented with three letters (copies attached) concerning this matter.

I don't believe you were there during this discussion but the Commission instructed us to look into the legal questions raised by Mayor Goldschmidt and Vernon Rifer of the Oregon Environmental Council concerning the possibility of making a change from a three- to two-person car pool.

I would appreciate a report from you by August 15 so I can forward it on to the Commission, along with a report from Bob Bothman, prior to their next meeting.

FBK:srb

Attachments

cc: Robert A. Burco
H. S. Coulter
R. N. Bothman

#4259

MULTNOMAH COUNTY OREGON

OFFICE OF THE CHAIRMAN
BOARD OF COUNTY COMMISSIONERS
ROOM 606 COUNTY COURTHOUSE
PORTLAND, OREGON 97204
(503) 248-3308

COUNTY COMMISSIONERS
DON CLARK, Chairman
DAN MOSEE
ALICE CORBETT
DENNIS BUCHANAN
MEL GORDON

August 15, 1977

Copy
S Klabee
8/17/77 jv

Mr. Robert A. Burco, Director
Department of Transportation
135 Transportation Building
Salem, Oregon 97310

RE: Response to Oregon Transportation Commission on HOV Lanes

Dear Mr. Burco:

In response to the ODOT inquiry on the Banfield HOV lanes, Multnomah County has participated in the review of the HOV lanes through the Banfield HOV Technical Advisory Committee and has kept informed of the experience with the lanes.

The Banfield HOV experiment provides a welcome step in the direction of better utilization of the existing system and the conservation of energy. More efficient use of transportation facilities is a goal of both the national government, as stated in the Transportation Systems Management Program, and the Columbia Region Association of Governments, as stated in the CRAG Goals and Objectives and the Interim Transportation Plan.

The HOV lanes provide an opportunity to break away from the one-car/one person work trip routine which is so costly in terms of energy waste, provision of highway facilities, environmental damage and neighborhood disruption. Data on the functioning of the lanes has shown the ability to carry more people in the freeway while speeds for the overall traffic flow increased. The lanes have been beneficial to East Multnomah County through providing an incentive for carpooling and the introduction of Banfield Flyer bus service. The incentive program for further HOV use should prove the lanes even more successful in promoting carpooling.

Continuation of the HOV lanes will provide a helpful, energy efficient transportation improvement until the Banfield Transitway Project is completed.

RECEIVED
AUG 16 1977
OFFICE
DIRECTOR of TRANSPORTATION

Sincerely,

Donald E Clark

Donald E. Clark
Chairman

cc: Members, Transportation Commission
DC:jan

E.E. #8259

various
(see letters attached.

File "L"
DIRECTOR'S FILE
Banfield Bus

OREGON ENVIRONMENTAL COUNCIL

2637 S.W. WATER AVENUE, PORTLAND, OREGON 97201 / PHONE: 503/222-1963

August 9, 1977

Burco has seen
no written
reply made
May 1978

ALTERNATIVE FUTURES Tigard
AMERICAN ASSOCIATION OF UNIVERSITY WOMEN
Portland Chapter
AMERICAN INSTITUTE OF ARCHITECTS
Portland Chapter
Southwestern Oregon Chapter
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
Oregon Chapter
ASSOCIATED GENERAL CONTRACTORS OF AMERICA
AUDUBON SOCIETY, Central Oregon, Corvallis,
Portland, Salem
BAY AREA ENVIRONMENTAL COMMITTEE
Coos Bay
B.R.I.N.G., Corvallis
CENTRAL CASCADES CONSERVATION COUNCIL
CHEMEKETANS, Salem
CITIZENS FOR A CLEAN ENVIRONMENT
Corvallis
CITIZENS FOR A BETTER GOVERNMENT
CLATSOP ENVIRONMENTAL COUNCIL
EAST SALEM ENVIRONMENTAL COUNCIL
ECO-ALLIANCE, Corvallis
EUGENE FUTURE POWER COMMITTEE
EUGENE NATURAL HISTORY SOCIETY
FRIENDS OF THE EARTH
FURTAKERS OF AMERICA, Canby
GARDEN CLUBS of Cedar Mill, Corvallis,
McMinnville, Nehalem Bay, Scappoose
GREENPEACE OREGON
H.E.A.L., Azalea
LAND, AIR, WATER
Eugene
LEAGUE OF WOMEN VOTERS
Central Lane
Coos County
McKENZIE FLYFISHERS, Eugene
McKENZIE GUARDIANS, Blue River
NORTHWEST ENVIRONMENTAL DEFENSE CENTER
NORTHWEST STEELHEADERS COUNCIL OF TROUT
UNLIMITED, Crater Lake, Corvallis,
Tigard, Willamette Falls
OBSIDIANS, INC., Eugene
1,000 FRIENDS OF OREGON
OREGON ASSOCIATION OF RAILWAY PASSENGERS
OREGON BASS AND PANFISH CLUB
OREGON GUIDES AND PACKERS
OREGON HIGH DESERT STUDY GROUP
OREGON LUNG ASSOCIATION, Portland & Salem
OREGON NORDIC CLUB
OREGON PARK & RECREATION SOCIETY
Eugene
OREGON ROADSIDE COUNCIL
OREGON SHORES CONSERVATION COALITION
O.S.P.I.R.G.
PLANNED PARENTHOOD ASSOCIATION, INC.
Lane County
Portland
PORTLAND RECYCLING TEAM, INC.
P.U.R.E., Bend
SANTIAM ALPINE CLUB
Salem
SELLWOOD-MORELAND IMPROVEMENT
LEAGUE, Portland
SIERRA CLUB
Pacific Northwest Chapter, Eugene
Columbia Group, Portland
Klamath, Klamath Falls,
Many Rivers, Eugene
Mary's Peak, Corvallis,
Mt. Jefferson, Salem,
Rogue Valley, Ashland
SOLV
STEAMBOATERS
SURVIVAL CENTER, U. of O., Eugene
TEAMSTERS FOOD PROCESSORS
THE TOWN FORUM, INC.
Cottage Grove
UMPQUA WILDERNESS DEFENDERS
WESTERN RIVER GUIDES ASSOCIATION, INC.
WILLAMETTE RIVER GREENWAY ASSOCIATION

Mr. Robert A. Burco
Director
Department of Transportation
State Highway Building
Salem, Oregon 97310

Dear Bob:

As we informed you in July the OEC wishes to raise several administrative and legal points concerning possible changes in the high occupancy vehicle lanes (HOV) on the Banfield Freeway in Portland. I would appreciate your consideration of these matters and request you bring them to the attention of your commission.

1. The most important point is our strong feeling that you should be greatly expanding the system of HOV lanes in the metropolitan area. It is obvious to virtually every observer of transportation problems in urban areas that improving the capacity and efficiency of existing facilities is the only logical short term solution. We would like to see the Transportation Commission immediately move to lengthen the Banfield lanes and develop HOV lanes on I-5 north, the Sunset Highway and corridors to Oregon City and Oswego. In short, the Banfield HOV project is a success and should be expanded.

2. Discussion of reducing the Banfield HOV lanes is, in our opinion, irresponsible. The entire direction of planning in that corridor is to increase capacity through bus or light rail improvements. If you want this multi-million dollar investment to be successful you must set the ground work for it now. To reduce the HOV system is going in exactly the wrong direction.

3. When you first developed the Banfield HOV lanes with FAU money a negative declaration was filed under NEPA. If you were to alter the HOV lanes in a way that changed the initial project then we would consider the negative declaration no longer valid. As you know, the addition of additional freeway lanes for automobile use is a major federal action which requires a full environmental impact statement.

4. Also, if you decide to add freeway lanes by reducing the HOV you would be required to obtain an indirect source permit from DEQ. Given the substantial air pollution problems in the metropolitan area you can be assured that the application for this permit will be carefully scrutinized by the OEC.

5. The Oregon Action Plan required citizen participation and active consultation between DOT and local governments on matters of such importance as modifying the HOV lanes. We assume you are following the Action Plan in this matter as required by federal regulation.

Thank you for your consideration of this correspondence. If you wish to have OEC staff or attorneys present at your next meeting to discuss the detail of these points please let me know.

Best personal regards,

Larry

Larry Williams
Executive Director

LW/eft

cc: Bob Bothman
Neil Goldschmidt
Don Clark

RECEIVED
AUG 10 1977
OFFICE
DIRECTOR of TRANSPORTATION

1250

July 29, 1977

Doctor W. W. Wolman, Chief
Traffic Systems Division
Federal Highway Administration, HRS-33
U.S. Department of Transportation
Washington, D.C. 20590

Proposed Request for Extension of
Monitoring and Evaluation Program
Banfield-HOV Lanes

Dear Dr. Wolman:

Enclosed are 2 copies of an application for an extension of the existing grant on the subject program.

We are proposing an extension of the existing program to develop new incentive for use of the HOV lanes. The application provides details for the proposed program and its cost. The estimated cost is $51,000.

We request your participation in this proposed program. I feel that the information collected as a result of continued monitoring will be valuable to the State of Oregon and the United States Department of Transportation.

Very truly yours,

for H. S. Coulter
State Highway Engineer

DES:lml

cc/att. Glen L. Green
bc F. B. Klaboe
E. S. Hunter
R. N. Bothman
D. H. Moehring

cy Bud George
8-3-77

-9, 1977

STATE OF OREGON

INTEROFFICE MEMO

TO: H. S. Coulter
State Highway Engineer

DATE: July 29, 1977

FROM: D. E. Swan
Federal Aid Engineer

SUBJECT: Request for Extension of
Monitoring and Evaluation Program
Banfield-HOV Lanes

Attached are 4 copies of an application for a second demonstration grant on the subject program.

This proposed extension covers new incentive programs which have been developed in cooperation with Tri-Met and the City of Portland to increase the use of the HOV lanes. The HOV lanes currently move 1,200 people per hour. This incentive program has as its goal an increase to 2,000 people per hour in 1979, with an interim goal of 1,600 people per hour by 1978.

The FHWA has requested that a separate task in this grant application be provided to send a delegate to a seminar sponsored by the FHWA Research Division. The delegate will make a presentation on "Oregon's Perspective and Experiences in the Operation of HOV Lanes". This seminar is to be held in Columbus, Ohio, November 7-11.

Attached is a proposed letter to Dr. W. W. Wolman, requesting FHWA approval and participation in this grant.

DES:lml

Attachment

RECEIVED
STATE HWY ENGR
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FOR
Info | Invest. | R/D | D/R | Sign | Act | File

...WAY DIVISION
July 12, 1977

STATE OF OREG[illegible]

INTEROFFICE MEMO

TO: Bill
F. B. KLABOE
Chief of Operations

FROM: R. N. BOTHMAN
Ass't. State Highway Engineer

DATE: July 13, 1977

SUBJECT: Application for Demonstration Grant No. 2
New Utilization Incentives
Banfield HOV Lanes

New incentive programs developed in cooperation with Tri-Met and the City of Portland, to increase the usage of the HOV lanes, are being implemented by these agencies. Attached is a grant application extension developed for monitoring the effects of these incentives. The goal of this incentive program is to increase the usage of the HOV lanes from its current 20 percent peak hour usage (1200 people per hour) to 30 percent (2000 people per hour) in 1979. During the nine-month time frame of this grant, September 1, 1977, to July 1, 1978, a goal of 1600 people per hour has been established.

As a separate task in the grant, at the request of the FHWA, we have included funding to send a delegate to a fall seminar sponsored by FHWA's Research Division. The delegate will make a presentation on "Oregon's perspective and experiences in the operation of HOV lanes", at the Federal Coordination Program seminar held in Columbus, Ohio, November 7-11. Attached is information on this meeting.

During the time frame for the proposed second grant, additional incentives to increase the utilization of the HOV lanes may emerge. Such changes could also significantly increase the usage of the HOV lanes and could be monitored for comparison purposes.

The contract for the grant should be reviewed by our legal staff to insure that modifications or elimination of the HOV lanes would not affect the grant and termination could be facilitated without penalty. Copies of the grant application are forwarded for your evaluation and submittal to the Federal Highway Administration. We have coordinated this application with discussion with FHWA representatives.

JDM/ldo

Attachments

RECEIVED
DOT OPERATIONS
JUL 20 '77
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FOR
Info | Invest | R/D | U/R | Sign | Ret | File

[illegible]HWAY DIVISION

July 12, 1977

A P P L I C A T I O N

FOR DEMONSTRATION GRANT

Evaluation of New Carpool and Bus Ridership Incentives for Increased Utilization of the Banfield Freeway High Occupancy Vehicle(HOV) Lanes Portland, Oregon

Submitted to:

UNITED STATES DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

By:

OREGON STATE HIGHWAY DIVISION

July 12, 1977

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HOV LANE INCENTIVE PROGRAM

I. HOV LANE BACKGROUND

A. INTRODUCTION

On December 15, 1975 the Oregon State Highway Division opened high-occupancy vehicle (HOV) lanes on the Banfield Freeway in metropolitan Portland. The opening commenced as experimental effort designed to use preferential lanes to increase vehicle occupancy and reduce congestion.

The project was initiated in January 1975, when the Oregon State Highway Division proposed the project to the city and regional transit agency to solve the severe congestion occuring on the Banfield Freeway. The facility had experienced a growth in average daily traffic(ADT) volumes from 26,000 in 1958 to 110,000 in 1977(Figure 1). The Banfield was designed to carry 60,000 ADT. The growth rate had stabilized, indicating that the facility was unable to accept further increase in traffic volume during peak rush hours. Adjacent, parallel arterials were operating within 100 to 200 vehicles of capacity, and were not able to absorb additional traffic diverted from the freeway. It became clearly evident that the accommodation of projected growth needs was conditional to added East/West transportation capacity.

B. OBJECTIVES

A three-fold desire to: 1) increase the people carrying capacity of the facility without resorting to additional paved surface, 2) improve the air quality, and 3) obtain a quick improvement, resulted in the proposal to implement high-occupancy vehicle (HOV) lanes as a carpool and bus-use incentive.

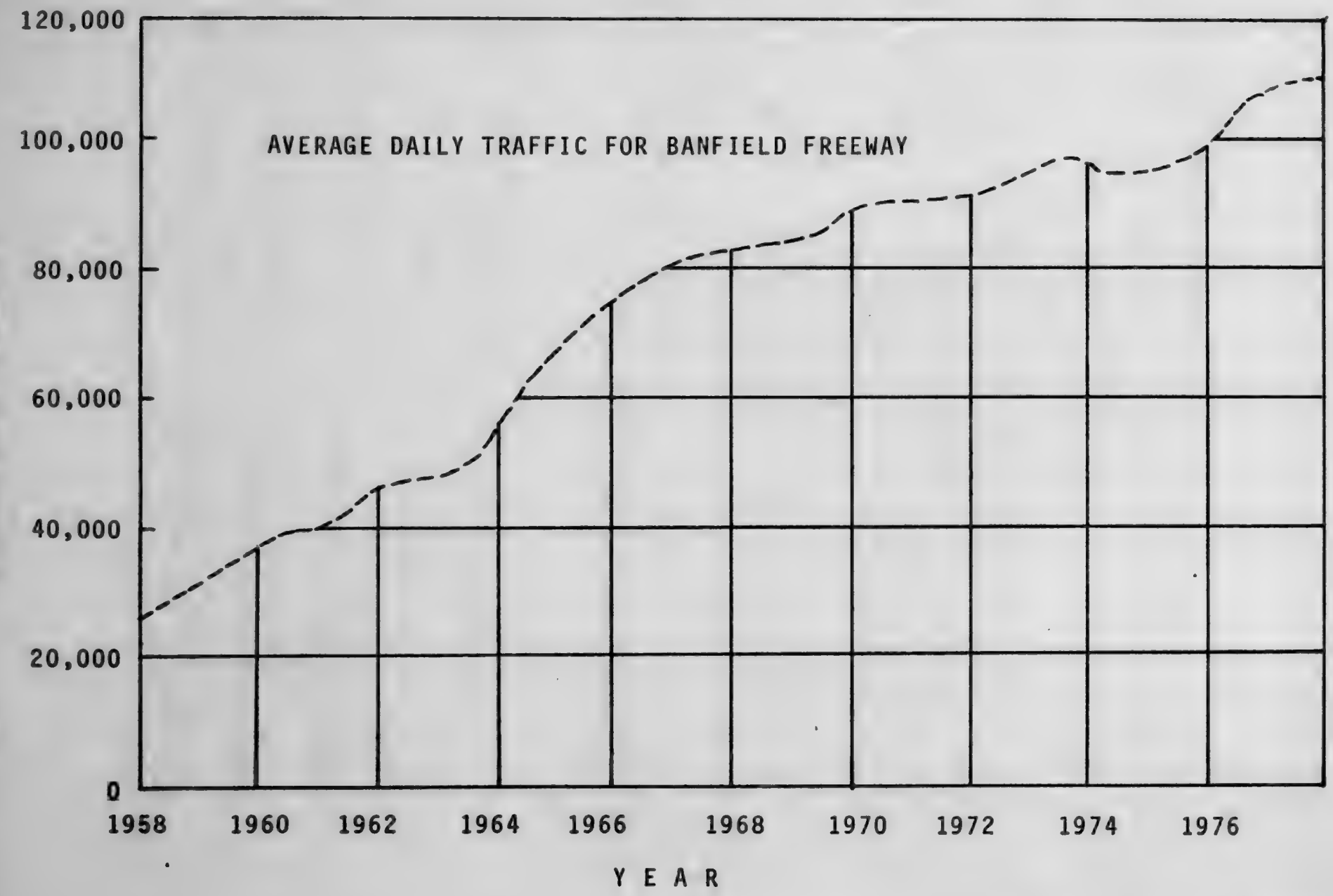
The pupose of the project is to relieve traffic congestion in the Banfield corridor, and develop a facility that provides for a flexibility in operation that will aid in the development of a suitable, long-term solution.

The general objectives are to: test the feasibility of using exclusive bus and HOV lanes on an established freeway, and lay the foundation for continuing transportation innovation in the Portland metropolitan area.

The specific objectives are to:

1. Assist in implementing the State of Oregon Clean Air Act Implementation Plan, Portland Transportation Control Strategy by increasing the person-per-vehicle ratio on the Banfield;

FIGURE NO. 1



Note: Figure 1 represents average daily traffic for all days. Weekday traffic only, would show slightly higher averages.

2. Provide for carpooling and bus-use incentives in the corridor through the use of HOV lanes;

3. Reduce traffic congestion on the Banfield and adjacent arterial streets;

4. Provide a safe transportation facility by improving the roadway surface;

5. Provide a time and fuel savings to the traveler;

6. Provide an interim, low-cost improvement to the Banfield as an expedient, until such time as a major revision can be accomplished.

C. SETTING

The Banfield corridor is situated in the Northeast quadrant of metropolitan Portland, and passes through some of the most densely developed residential, commercial and industrial areas of this sector. Additionally, the East Multnomah County area served by the freeway is one of the faster growing residential sections in Portland, with a projected population increase in excess of 100 percent by 1990. The Banfield is the only East/West primary arterial to and from the central business district, and the industrial complex to the North.

The freeway is constructed in a natural drainage depression known as Sullivan's Gulch. The gulch, which begins at grade in the Easterly portion of the project area, gradually increases in relief in a Westerly direction, where it attains a 20- to 30-foot depth below the adjacent terrain. This meandering depression has long been used as a natural, gentle-grade, transportation route from the Willamette River, East to the Columbia River floodplain.

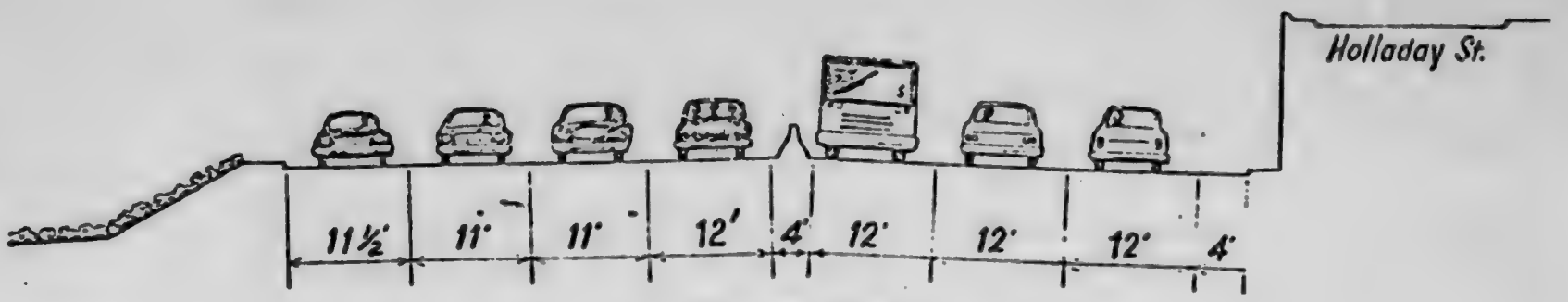
Prior to the start of project construction in July, 1975, the freeway's configuration consisted of a six-lane facility for the Western half of the project section, and a four-lane facility for the Eastern portion. The overall project length is 4.76 miles.

D. DESCRIPTION

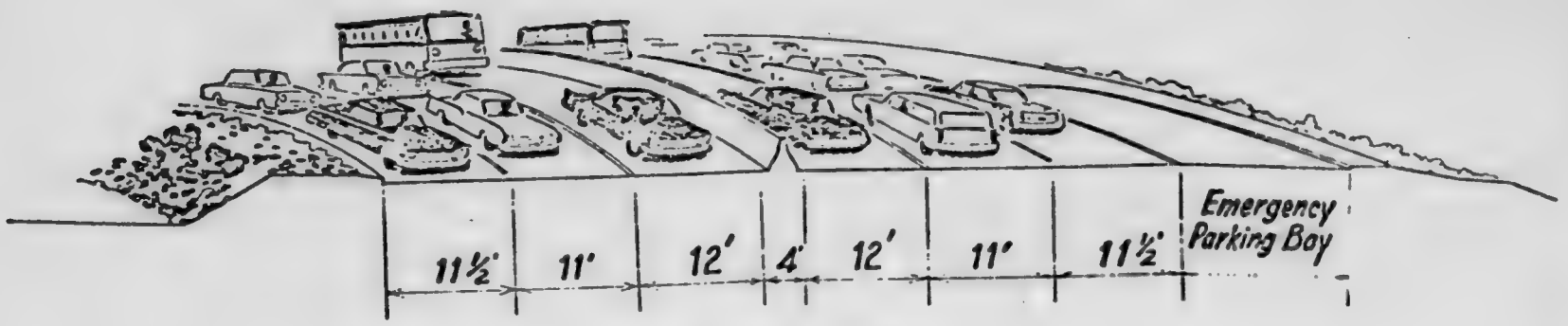
In the new roadway, travel lanes occupy all of the pavement between curbs, using the shoulder areas. The high-occupancy vehicle lane is next to the median barrier and provides exclusive use for buses and other vehicles containing three or more people. There is no reduction in the number of lanes available to normal truck and car usage. The additional lane was derived by reducing the width of the lanes by one foot, and using the existing shoulder area. Relative lane widths are 11.5 feet for the outside lane, 11 feet for the center lanes, and 12 feet for the inside lanes(Figure No.2).

BANFIELD FREEWAY
HIGH OCCUPANCY LANES

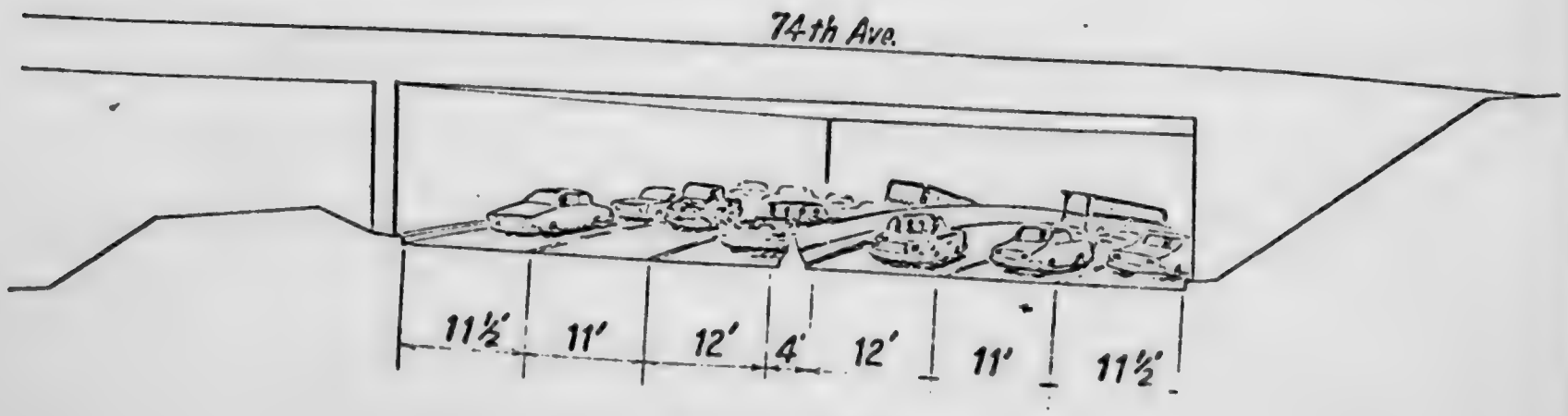
FIGURE NO. 2



Section A-A
Looking East at NE 23rd Ave.



Section B-B
Looking East Near Providence Hospital



Section C-C
Looking East at NE 74th Ave.

Eastbound from the centeral business district, limitations in the existing cross section prevented the development of an additional lane from the Union Avenue structure(M.P. 0.46) to Northeast 39th Avenue(M.P. 2.55), where the transition section begins(Figure No. 3). The Eastbound HOV lane is fully developed and commences at Northeast 44th Avenue(M.P. 2.88).

The HOV lane designation is terminated at Northeast 74th Avenue (M.P. 4.59), with the actual additional lane ending at Northeast 86th Avenue.

The Westbound(inbound) HOV lane begins at Northeast 74th Avenue (M.P. 4.59), and is continued to its designated end at Northeast 21st Avenue(M.P. 1.36), with the actual lane ending at Northeast 14th Avenue(M.P. 0.98). There is no reduction in the number of lanes available to trucks and non-high-occupancy vehicles as a result of this project.

One requirement for the project was the replacement of the metal guardrail with the New Jersey type of concrete median barrier. Precast members were used with the exception of transition sections, terminal sections, and on one sawtooth section, where the barrier was cast in place. Concrete shoulder barriers were placed for those structure abutments and columns where the travel lanes were moved to the shoulder area. Exceptions are where continual runs of metal guardrail existed.

A pavement overlay was included in the project. The surfacing consisted of patching the rutted areas with asphaltic concrete and overlay the entire area with an open-graded asphaltic concrete.

Restriping of the entire section was necessary. Standard raised-button striping was used in a pattern consisting of four opaque and one reflectorized buttons in a 15-foot strip. at 40-foot cycles, for the nonrestricted travel lanes; and a continual button stripe containing a reflectorized button every 40 feet for delineation for the HOV lane.

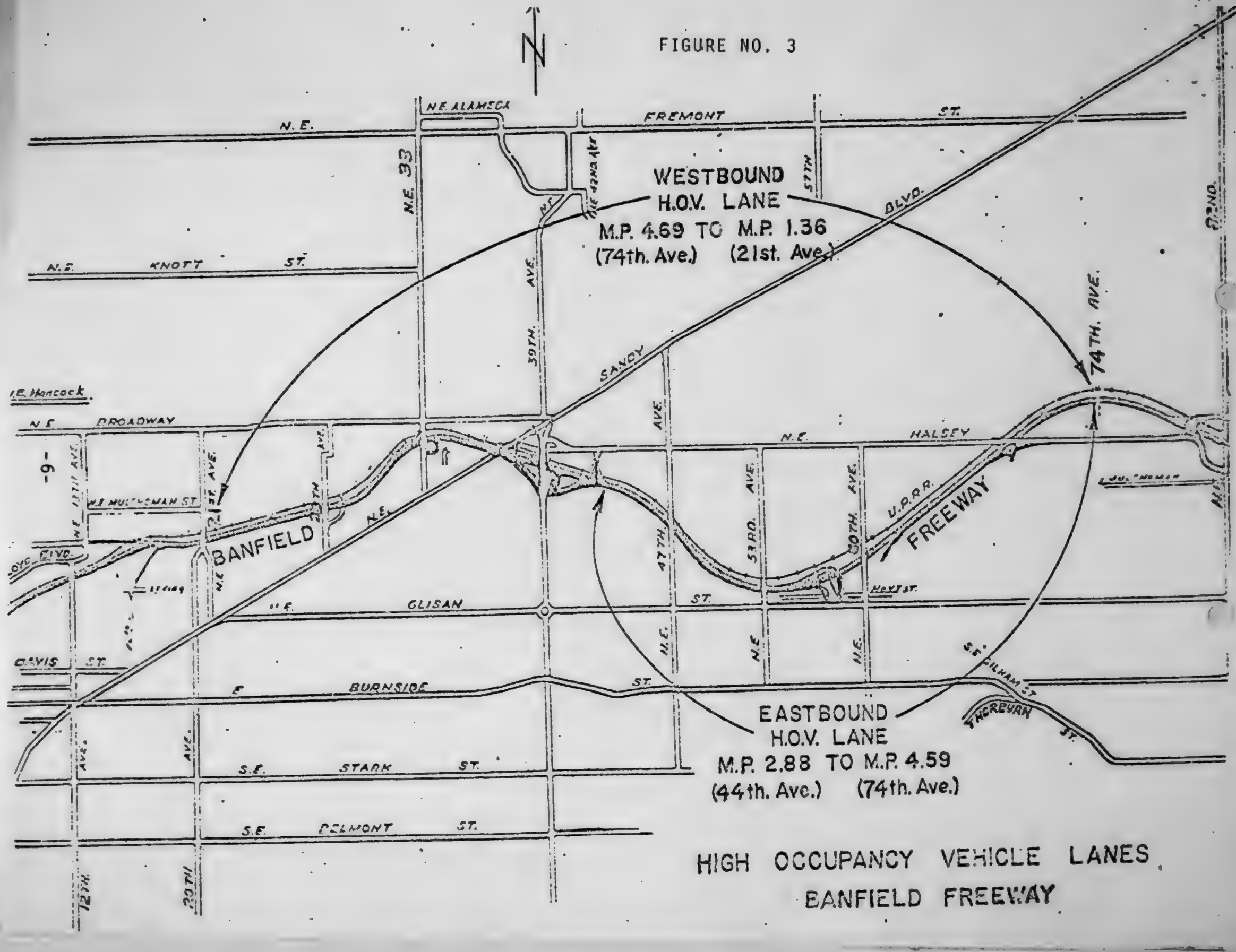
The existing illumination along the project section is limited. a lighting improvement was cost prohibitive.

Pavement buttons were a necessity due to dark sections, the glare of oncoming headlights, a long rainy season, and 11-foot lanes. These factors preclude painted stripes. The buttons provide reflective light, plus a rumble strip if the motorist wanders from the lane.

A louvered glare shield was installed on the median rail throughout the project section to minimize headlight glare. The screening consists on 24-inch paddles placed at intervals varying from 24 to 40 inches, dependent on highway alignment.

The transition into the HOV lane, Eastbound and Westbound, is

FIGURE NO. 3



HIGH OCCUPANCY VEHICLE LANES
BANFIELD FREEWAY

achieved through a tapered median which moves the alignment of the nonrestricted travel lanes the width of one lane to the right. The shoulder area is eliminated to gain the necessary width for an additional lane. At the completion of moving all traffic to the right, the median taper is reversed, creating as additional lane reserved for high-occupancy vehicles. No lane changing is required for normal traffic. Eligible vehicles choosing to use the HOV lane must move into the restricted lane. At the terminus of the HOV lanes, the lane continues as a normal travel lane. The right-hand unrestricted lane is eventually terminated.

Because of the use of the shoulder area, emergency parking bays were constructed along the project section at about 2000-foot intervals. An emergency call box, tied directly to the State Police dispatch unit, is located at each bay.

Signing for the HOV lanes consists of:

1. "Restricted Lane Ahead" to provide advance notice of the HOV lane;

2. Buses and 3-Person Carpools Only" posted at the beginning and periodically throughout the HOV lane section(Figure No. 4);

3. "Restricted Lane Ends" posted at the terminus of the HOV lane;

4. Large diamond symbols painted on the road surface every 500 feet throughout the restricted lane.

A speed limit of 55 MPH is currently in effect.

To provide a further incentive, the regional transit agency, Tri-Met, is providing 10 express buses called the Banfield Flyers which operate from as far East as Gresham, picking up patrons at Park & Ride lots and transporting them directly Downtown Portland via Banfield HOV lanes.

The HOV lanes are now being restricted to high-occupancy vehicles during the peak rush hours of 6:30 to 9:30 A.M. Westbound and 3:30 to 6:30 P.M. Eastbound Monday through Friday.

FIGURE NO. 4

BUSES AND
3 PERSON
CAR POOLS ONLY
3:30 P.M. - 6:30 P.M.
MON - FRI
(EASTBOUND)
6:30 A.M. - 9:30 A.M.
MON - FRI
(WESTBOUND)

II. INCENTIVE PROGRAM

A. INTRODUCTION

It is anticipated that on September 3, 1977, the following carpool and bus ridership incentives will be implemented on the Banfield HOV Lane project:

1. Tri-Met, the regional transit agency, will establish the Quad-Cinema Theatre in Gresham as a new Park & Ride Lot. One of the two Banfield Flyer bus lines will begin servicing this new lot. Over 300 parking spaces will be available for Park & Ride use. It is hoped that the nearness of this Park & Ride Lot to a heavily populated portion of the East County area and the 12-mile distance from the CBD will attract many new bus riders and a few more carpools.

2. Tri-Met will increase the utilization of the HOV Lanes by rerouting other bus lines onto the Banfield where practical.

3. The City of Portland will provide reduced parking rates for carpoolers in the Downtown Core Area. They will allow carpools to park all day at existing City 6-hour parking meters for a set monthly fee which will be considerably less than normal parking fees. Over 500 6-hour parking spaces will be made available for this purpose. Also, a few agencies parking garages will allow carpoolers to park at reduced rates at the most convenient locations.

4. A general promotion for the Banfield HOV Lanes will include advertising and a specific marketing program of these incentives to help increase the use of these lanes.

B. GOALS

The goal of the incentive program is to increase the utilization of the Banfield HOV Lanes during the Peak Rush Hours. This will be done by enticing the drivers of single occupant vehicles to either form carpools or to ride the buses in order to use the lanes. The HOV Lanes are currently carrying 1200 people per hour or 20 percent of the people who use the Freeway during Peak Rush Hours. The goal of this incentive program is to increase the amount of people transported in the HOV Lanes to over 2000 people per hour or 30 percent of the people who use the Freeway during Peak Rush Hours. This can be accomplished by these incentives and a steady learning process by the public of the value of the Lanes. Within this 9-month monitored time period the following

goals should be met:

1. The HOV Lanes should be carrying 1400 people per hour during the Peak Rush Hours on January 1, 1978.

2. The HOV Lanes should be carrying 1600 people per hour during the Peak Rush Hours on April 1, 1978.

3. The HOV Lanes should be carrying the goal of 2000 people per hour during the Peak Rush Hours sometime during 1979.

C. JUSTIFICATION

For the past 10 months, the Banfield HOV Lanes have been extensively monitored to test the feasibility of using exclusive bus and HOV Lanes on an established freeway. A Final report of this monitoring effort will be released in September of this year. Because of the timing of these new incentives, they will not be evaluated in that report. Though these incentives were first brought up as far back as the end of 1976, they will not be implemented until September of 1977. This was due to the large number of different agencies involved, due to their internal budgets, and due to the overall funding of these programs. It will be of great value to the Federal Government to learn what effects these incentives have on increasing the utilization of an existing HOV Lane project. Since the mechanism for monitoring this work already exists from the previous Grant, very little expense will be needed for mobilization of, and training of personnel to monitor the new project. With the approval of the Grant Application, the Banfield HOV Lane can continue to be monitored as before starting on September 1, 1977 and continuing until June 1, 1978. It is felt that nine months of time will be adequate to evaluate the effectiveness of the new incentives.

EVALUATION PROGRAM

I. TECHNICAL PROPOSAL

To determine what effect carpool and bus ridership incentives have on the performance of the HOV Lanes in the Banfield corridor, an evaluation program has been developed. The content and scope of the program is described in the following statement of work:

Statement of Work for the Study Entitled

"Evaluation of New Incentives for Carpooling and Bus Riding to increase ultilization of Preferential Lanes for High-Occupancy Vehicles on the Banfield Freeway, Portland, Oregon"

OBJECTIVE

The purpose of this study is to determine the effects of adding new incentives for carpooling and riding the bus to the performance of an ongoing HOV lane on the Banfield Freeway.

SCOPE

The measures of effectiveness to evaluate the results from the changes on the Banfield Freeway include collecting data on:

A. Traffic flow characteristics
B. Transit and carpool usage
C. Safety

The monitoring effort will span a 9 month period beginning on September 1, 1977 and terminating June 1, 1978.

An effort to compile a data base representing conditions prior to implementation is also included in this program.

In order to conduct the evaluation study, the following tasks shall be conducted:

Task A - Analyze Traffic Flow Charactoristics

Collect data and analyze the data to determine the following:

- The change in peak-hour average speeds on the Banfield and on parallel arterials.

- The change in peak volumes on the Banfield and on the parallel arterials. Volumes will be broken down by lane and separated into number of people and number of vehicles.

- The change in the High-Occupancy Vehicles(HOV) lane violation rate

- The change in number of trucks using the parallel arterial streets as compared to the Banfield.

In order to collect the required data, a traffic data collection program shall consist of the following:

1. Volumes(total)

   a. Banfield Freeway - One continuous counter for all lanes has been permanently installed at the Western terminus of the Westbound HOV lane.

   b. Arterial Streets - Traffic loops have been cut in three arterial streets which parallel the Banfield and may incur traffic volume changes as a result of the HOV lane. A one-week-per-month count will be taken at each site.

2. Lane Counts - Lane counts are taken manually at two locations on the freeway, three days each month, at 6-9 A.M. Westbound and 3-6 P.M. Eastbound.

3. Truck Counts

   a. Freeway - Number of trucks are counted one day each month at a point mid-distant along the project length.

   b. Arterial Streets - Number of trucks are counted one day each month on each of the three parallel arterial streets.

4. Traffic Speed

   a. Freeway - Floater cars are used to determine average traffic speeds between six check points along the freeway in both the restricted and nonrestricted lanes. The runs are made three days each month at 6-9 A.M. Westbound and 4-7 P.M. Eastbound.

   b. Arterial Streets - Average traffic speeds are taken at three arterial street locations where traffic counters are located. Floater cars are used. Each location is sampled one weekday per month during the peak hour.

Task B - Analyze Transit and Carpool Use

Collect data and analyze the data to determine the following:

- The change in bus patronage as a result of the new incentives.

- The change in bus travel time.

- The change in vehicle occupancy rates(excluding buses)

- The effect of parking rate change, within the CBD, on transit and carpool usage.

- The effect of fuel price change on HOV lane use.

In order to collect the required data, the following data collection program shall be used:

1. Bus Ridership

   a. The regional transit agency,Tri-Met, is providing daily ridership counts for the "Banfield Flyers" (special peak-hour express runs), and monthly ridership counts for all other Tri-Met buses.

   b. One-day-per-month occupancy estimates are being made by a lane observer for non-Tri-Met buses using the HOV lane during the peak hour.

   c. One-day-per-month occupancy estimates are being made by a remote observer for all buses traveling in a corridor similar to the Banfield(Sunset Highway) during peak hours.

2. Bus Travel Time - Monthly time runs are made for the "Banfield Flyers".

3. Vehicle Occupancy - Occupancy counts, for non-bus vehicles, are made on three consecutive weekdays per month on the Banfield, during peak-hour operation. A count for each lane is taken. Occupancy counts for non-bus vehicles are also taken during the peak hours, one-day-per-month, on a freeway corridor similar in situation to the Banfield for comparison. The Freeway which was selected is the Sunset Highway located in Southwest Portland

4. Fuel Prices - Selected gas stations serving the corridor will be monitored for fuel price changes.

Task C - Analyze Safety

This task shal determine the change in the rate and nature of vehicular accidents occurring within the project section. A copy of each accident report received by the state Motor Vehicles Division is forwarded to the Highway Division. This enables the Highway Division to closely scrutinize accident patterns and causes.

Task D - Presentation of Findings

As part of the grant extension, ODOT would be willing to send a delegate to the Federal Coordinating Program in Columbus, Ohio, November 7-11, to make a presentation on Oregon's perspective and experiences in the operation of HOV lanes. Funds for the delegate would be funded by this grant extension.

Supplementary Notes to the Statement of Work

1. During the progess of this study, the following items shall be developed or provided:

   a. Ongoing graphing of all collected data shall be done to assist in revealing questionable trends.

   b. Assigned specialists shall review all incoming raw data.

   c. A technical advisory committee for the Banfield project would periodically review the data in a plotted form. (Mr. C.T. Christianson of the FHWA Oregon Division Office should be included on the technical advisory committee.)

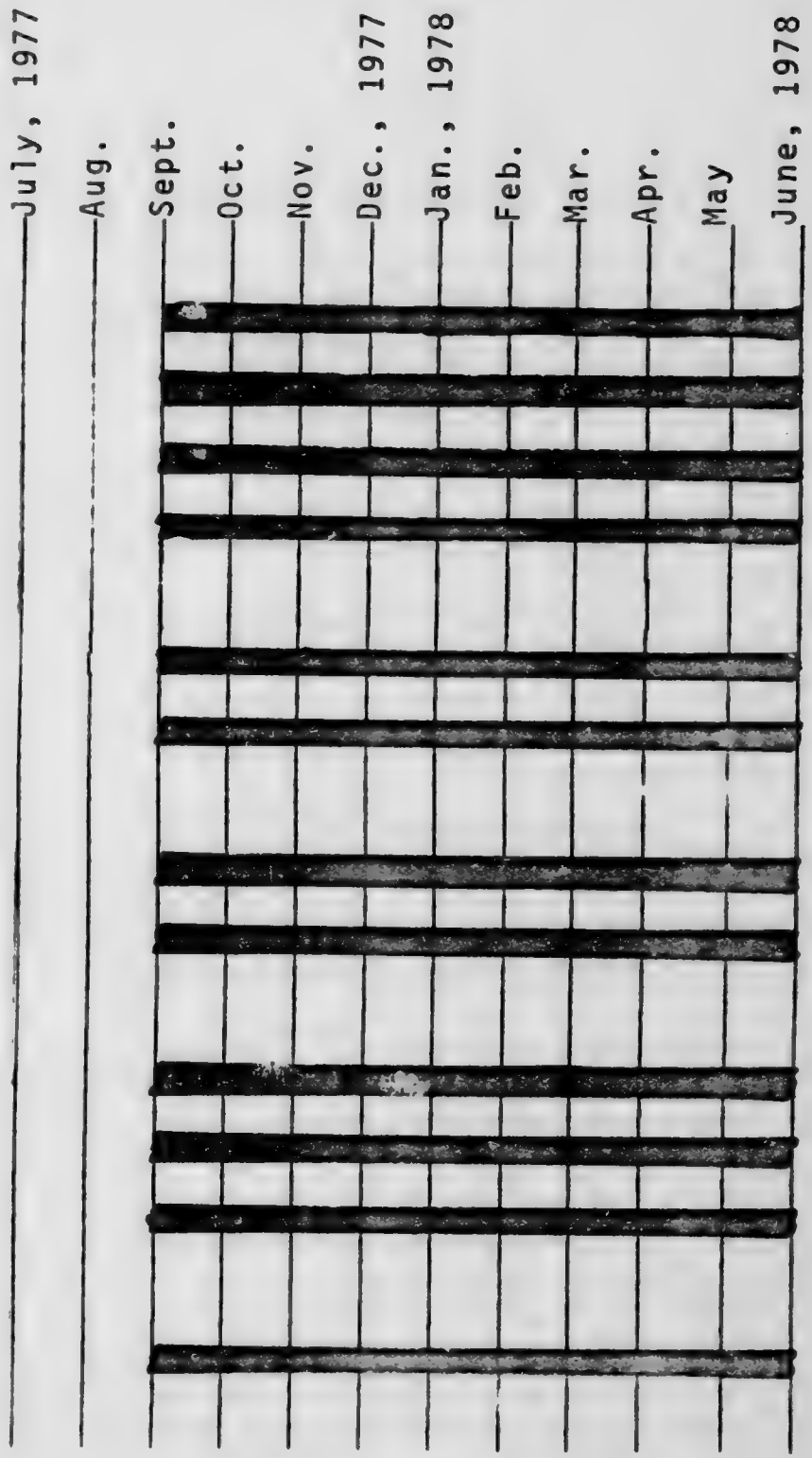
2. Mr. Jim McClure shall be designated as the principal investigator for the contract.

3. The Project Schedule is shown on Page . The project should terminate August 1, 1978, which allows for a two-month final report development and review period.

4. The final report shall document the findings of all tasks and it shall provide a chronological description of the changes in freeway operation, enforcement intensity, safety features, freeway usage aids, and bus schedules throughout the evaluation period. These characteristics shall be correlated with the trend indicators. Inter-correlation of various indicators shall be accomplished to analyze cause and effect relationships.

Six copies of a draft final report shall be provided to the contract manager and one copy to the contract administrator. Include the usual requirement for preparing the final report.

PROJECT SCHEDULE



A. Traffic Analysis

1. Volumes
   a. Banfield
   b. Arterials
2. Lane Counts
3. Occupancy Counts
4. Truck Counts
   a. Banfield
   b. Arterial Streets
5. Traffic Speeds
   a. Banfield
   b. Arterial Streets

B. Transit and Carpool Analysis

1. Bus Ridership
2. Bus Travel Time
3. Carpool(Occupancy Counts)

C. Safety

1. Accident Rate and Analysis

Title: "Evaluation of Preferential Lanes for High-Occupancy Vehicles on the Banfield Freeway, Portland, Oregon"
Proposal Submitted by: Oregon State Highway Division

Level of Effort and Task Breakdown

Name of Principal Staff Members	Role in Study	Task A	Task B	Task C	Task D	Total
Jim McClure	Principal Investigator	0.54	0.15	0.31	0.20	1.20
Jerry Street	Asst. Principal Investigator	1.80	1.80	0.90	0.20	4.70
Bill McConnel	Data Collection Coordinator	5.00	1.22	0.53	0.00	6.75
Jef Kaiser	Investigator	0.72	0.20	0.08	0.00	1.00
Dennis Peterson	Traffic Data Analyst	0.40	0.00	0.10	0.00	0.50
Byron Meadows	Air Quality Data Analyst	0.60	0.20	0.20	0.00	1.00
	Totals	9.06	3.57	2.12	0.40	15.15

NOTE: All times are given in Man-Months.

Biographical Information
for
Principle Staff and Technical Advisors

Principle Investigator(ODOT) - Jim McClure has a BS degree in Civil Engineering from Oregon State University and is a Registered Professional Engineer. Jim has 16 years experience in highway engineering and is currently ODOT's Metropolitan Section Project Development Engineer.

Assitant Principle Investigator(OSHD) - Jerry Street has a BS degree in Civil Engineering from Oregon State University and is a Registered Professional Engineer. Jerry has 16 years experience in highway engineering and is presently a resident engineer in Portland.

Data Collection Coordinator(ODOT) - William McConnel has an associates degree in Civil Engineering Technology from Oregon Institute of Technology and has 15 years experience in highway engineering.

Investigator(ODOT) - Geoffery Kaiser has a BS degree in geography/ biology from Florida State University, and an MS degree in resource/physical geography from Oregon State University. Jef has one year experience in environmental planning and one year professional experience in research and data compilation.

Traffic Data Analyst and Technical Advisor(ODOT) - Dennis Peterson has a BS degree from North Dakota State University in Civil Engineering and is a Registered Professional Engineer. Dennis has been the Highway Division's Portland Metropolitan Traffic Engineer for the past 13 years, and has an overall 19 years experience in traffic engineering.

Technical Advisor(DEQ) - Tony George has a BS degree from Oregon State University in Civil Engineering. Tony has six years of experience in engineering with the Oregon Department of Transportation and one year of experience in air quality management and urban transportation planning.

Air Quality Data Analyst and Technical Advisor(ODOT) - Byron Meadows has a BS degree in Civil Engineering from the University of Illinois. Byron has recently taken the registration test in Civil Engineering and is presently waiting word on the results. Byron has been with ODOT for the last five years and in the environmental section for one year

COST SUMMARY
for EVALUATION PROGRAM

DESCRIPTION of COST	TOTAL COST
Task "A"	
Labor	33,756
Equipment & Materials	1,952
Total of Task "A"	35,708
Task "B"	
Labor	10,334
Equipment & Materials	309
Total of Task "B"	10,643
Task "C"	
Labor	3,615
Equipment & Materials	34
Total of Task "C"	3,649
Task "D"	
Labor	1,000
SUMMATION	
Labor	48,705
Equipment & Materials	2,295
Task Totals	51,000

DETAILED

COST BREAKDOWN

MANPOWER

CLASSIFICATION	SEPT '77 - MAY '78 BASE RATE	PLUS OVERHEAD	NO. MAN MONTHS	TOTAL COST	DISTRIBUTION OF INVOLVEMENT TASK A %	TASK A COST	TASK B %	TASK B COST	TASK C %	TASK C COS
Highway Engineer 4	1,959	2,684	4.50	12,078	37	4,831	37	4,831	18	2,4
Highway Engineer	1,392	1,907	6.75	12,872	78	10,040	17	2,188	5	6
Engineer's Aide	1,037	1,421	6.75	9,591	78	7,481	17	1,630	5	4
Hwy. Mait. Worker 2	1,037	1,421	9.00	12,789	88	11,254	12	1,535	0	
Secretary	678	929	0.40	375	40	150	40	150	20	

EQUIPMENT AND MATERIALS

DESCRIPTION OF ITEM	# UNITS	RENT/SHIFT	NO. OF SHIFTS	TOTAL COST	TASK A %	TASK A COST	TASK B %	TASK B COST	TASK C %	TASK C COS
"Pinto" Automobile	1	100	6.75	675	78	526	17	115	5	34
Crew-cab Truck	1	240	6.75	1.620	88	1,426	12	194	0	

MANPOWER

	SEPT '77 - MAY '78 BASE RATE	PLUS OVERHEAD	NO. MAN MONTHS	TOTAL COST	DISTRIBUTION OF INVOLVEMENT TASK A %	TASK A COST	TASK B %	TASK B COST	TASK C %	TASK C COST	TASK D %	TASK D COST
4	1,959	2,684	4.50	12,078	37	4,831	37	4,831	18	2,416	8	1,000
	1,392	1,907	6.75	12,872	78	10,040	17	2,188	5	644	0	0
	1,037	1,421	6.75	9,591	78	7,481	17	1,630	5	480	0	0
2	1,037	1,421	9.00	12,789	88	11,254	12	1,535	0	0	0	0
	678	929	0.40	375	40	150	40	150	20	75	0	0

PMENT AND MATERIALS

TEM	# UNITS	RENT/SHIFT	NO. OF SHIFTS	TOTAL COST	TASK A %	TASK A COST	TASK B %	TASK B COST	TASK C %	TASK C COST	TASK D %	TASK D COST
T	1	100	6.75	675	78	526	17	115	5	34	0	0
	1	240	6.75	1.620	88	1,426	12	194	0	0	0	0

ATTACHMENTS

INSTRUCTIONS TO OFFERORS FOR SUBMITTING PROPOSALS, page nos. 1 thru 4.

SPECIAL REQUIREMENTS, page nos. 5 and 6.

SUPPLEMENT TO CONTRACT PROPOSAL, page nos. 7 thru 13.

INSTRUCTIONS TO OFFERORS FOR SUBMITTING PROPOSALS

In responding to this solicitation please submit your proposal in three parts as follows:

Part I - Technical Proposal

A technical dissertation describing in detail how you would proceed if awarded a contract, a general history of the research segment of your firm, and a description of your experience in comparable studies.

Included as a part of your technical proposal shall be an organized work plan. This plan shall set forth a specific schedule of the work to be performed as outlined in ARTICLE I, STATEMENT OF WORK. The work plan shall be in such a form as to establish a firm schedule of dates for the start and completion of all activities, related requirements of manpower, and other resources assignable to each activity. The work plan schedule shall be reviewed periodically and revised as mutually agreed by the parties to this contract.

NOTE: A financial plan keyed to the organized work plan and giving a breakdown (by components) of costs which specifically relate to the organized work plan shall also be provided. It shall not be submitted with the technical proposal but shall be submitted in Part III - Cost Estimate.

Part II - Staffing

The names of all personnel and the positions they will occupy as related to this project shall be provided. The estimated level of effort in man-hours shall be shown for professional, technical and staff support personnel. Biographical summaries of key personnel shall also be included.

NOTE: The staffing information shall be provided on a task by task basis by discipline in accordance with the format identified as Attachment A.

Part III - Cost Estimate

The "SUPPLEMENT TO CONTRACT PROPOSAL" must be completed and signed.

Your cost breakdown shall detail the elements of work involved, the level and number of personnel to be utilized, labor, materials, overhead, etc.

Optional Form 60, Contract Proposal, must be completed and returned. Cost figures should not be shown in the forwarding letter or in the technical proposal.

You shall include a financial plan keyed to the organized work plan.

In addition to the three parts above, you shall furnish the following information with your proposal:

1. A current financial statement. — NOT APPLICABLE

2. A statement regarding availability of facilities and equipment necessary to accomplish the required work. — ALL NECESSARY EQUIPMENT IS AVAILABLE.

3. If any or all of the required facilities are Government-owned, a complete listing of these facilities is required and the cognizant Government agency furnishing the facilities and the facilities contract number(s). — NOT APPLICABLE

4. Information on contracts in fields relating to the proposed procurement which have been or are being performed by the offeror within the past three years including contract number, Government agency placing contract, type of contract, and brief description of the work. — NOT APPLICABLE

5. If subcontractors will be used in carrying out the requirements of this project, the following minimum information concerning the subcontractor shall be furnished: — NOT APPLICABLE

   a. Name and address of the firm.
   b. Statement of work and work plan (schedule) for the portion of work to be conducted by the subcontractor.
   c. Cost proposal (use Optional Form 60).
   d. Names and positions of personnel who will work on the project.
   e. A letter or other statement from each proposed consultant and/or subcontractor indicating that he has been approached on the matter of participation in this study and that he is willing and able to do so in the terms indicated.

6. If ADP services are anticipated in carrying out the requirements of the project, the following information shall be provided:

a. Manufacturer and model of computer. (IBM 370-158)
b. Turn-around time and memory requirements. (2 days, 128K)
c. Peripheral equipment requirements. (None)
d. Computer time requirements and applicable rates. (10 min/ o. CPU 25.00/min.)
e. Remote terminal capabilities including communication lines and modems. (N/A)
f. Geographical location of the computer. (Salem/Oregon)
g. Description and specifications for any system analysis and/or programming, including man-hours of effort and cost estimates. (See cost estimate)
h. Description of any special ADP equipment and/or services required. (No special requirement)
i. Description of any special software support required. (No special requirement)

NOTE: Any computer programs developed under this project shall be in FEDERAL STANDARD COBOL or ANSI FORTRAN IV language.

Any computer programs developed under this project shall be documented in accordance with the "FHWA Documentation Standards," Section 5, Chapters 2 and 3.

ADP Equipment

All specifications for the acquisition or use of ADP equipment shall be submitted with Part III of the offeror's proposal.

Data Collection Output

All automatically recorded data in magnetic tape or punched cards must be capable of being processed on FHWA equipment. FHWA equipment includes digital computers and analog to digital conversion systems located in the Washington, D. C., metropolitan area.

Analog Data Recorded on Magnetic Tape

Analog data recorded on magnetic tape shall either be capable of being converted on FHWA A/D conversion system or shall be converted to 9-track digital magnetic tape or punched card in accordance with the following section entitled "Digital Data Output on Magnetic Tape or Punched Cards."

Digital Data Output on Magnetic Tape or Punched Cards

All digital data collection devices which record data to be analyzed on a digital computer must either produce 9-track 1/2 inch magnetic tape in EBCDIC or ASCII code or 12-row, 3 1/4 inch-wide punched cards as specified in FIPS PUB 13.

The card punch device shall punch data in the Federal Standard Code for Information Interchange, FIPS PUB 1 or one of the approved Subsets of the Standard Code for Information Interchange FIPS PUB 15, in the hole pattern specified in FIPS PUB 14, Hollerith Punched Card Code.

(Copies of the Federal Information Processing Standards Publications, FIPS PUBS, can be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.)

SPECIAL REQUIREMENTS

1. In submitting a proposal in response to this Request For Proposal, the submitter must state that:

   a. The proposal submitted does not contain proprietary or confidential information; or

   b. The proposal submitted does contain proprietary or confidential information and that such information is specifically and clearly identified within the proposal itself.

   If a proposal is silent on the matter of proprietary or confidential information, the Government will assume that the proposal does not contain such information.

2. Unless the offeror restricts the use of material submitted in support of his proposal, the Federal Highway Administration may make use of such material, including any idea contained therein, for such purposes as it may deem appropriate.

3. Proposals must set forth full, accurate and complete but concise information as required by this Request For Proposal (including attachments); the penalty for making false statements in proposals is prescribed in 18 U.S.C. 1001.

4. The Supplement to Contract Proposal (REPRESENTATIONS, CERTIFICATIONS, AND ACKNOWLEDGEMENTS) attached hereto containing certain certifications, such as Type of Business Organization, Small Business, Contingent Fee, Equal Opportunity, Regular Dealer-Manufacturer, Buy-American Certification, Certification of Independent Price Determination, Certification of Nonsegregated Facilities, Employment of the Handicapped Certification, Clean Air and Water Certification, Disclosure Statement--Cost Accounting Practices and Certification, etc., is a part of this Request For Proposal (RFP) and must be fully executed in order for your proposal to be considered responsive.

5. The proposal must be signed by an official authorized to bind the offeror. The proposal shall also provide:

   a. Name and title of individual with authority to contractually bind the offeror. F. B. Klaboe, Chief of Operations.

   b. Name, title, address, telephone number and area code of person who may be contacted during the period of evaluation of proposals and for prompt contract administration upon award of a contract.
   ROBERT N. BOTHMAN, ASST STATE HIGHWAY ENGINEER
   5821 NE GLISAN STREET, PORTLAND, OREGON 97213
   PHONE NUMBER: 503-238-8226

revised
9/3/75

6. A contractor's Certificate of Current Cost or Pricing Data may be required after negotiation and prior to contract award.

7. Unnecessarily elaborate brochures or other presentations beyond that sufficient to present a complete and effective proposal are not desired and may be construed as an indication of the offeror's lack of cost consciousness. Elaborate art work, expensive paper and bindings, and visual and other presentation aids are neither necessary nor wanted.

8. An award will be made to the offeror whose proposal is determined to be the most advantageous to the Government. The Federal Highway Administration reserves the right: to reject any proposal at any time after the closing date; to conduct negotiations to the extent the Government deems necessary and appropriate; and, to make an award without further discussion or negotiation.

9. Information will be disclosed to offerors in accordance with Subparts 1-3.103(b) and 1-3.805-1(b) of the Federal Procurement Regulations, June 1964 edition.

10. The contracting officer is the only individual who can legally commit or obligate the Government to the expenditure of public funds. No cost chargeable to the proposed contract can be incurred before receipt of a fully executed contract or specific written authorization from the contracting officer.

11. Contract provision for progress payments will be made in conformity with the Federal Procurement Regulations. The need for progress payments conforming to the Federal Procurement Regulations will not be considered as a handicap or adverse factor in the award of contracts. (See enclosed--Progress Payments--if applicable.)

12. Reporting requirements are shown in ARTICLE II of the Sample Contract.

13. Delivery schedule is shown in ARTICLE IV of the Sample Contract.

SUPPLEMENT TO CONTRACT PROPOSAL

RFP-539-6

REPRESENTATIONS, CERTIFICATIONS, AND ACKNOWLEDGEMENTS (Offerors must COMPLETE, SIGN, AND ATTACH this supplement, in single copy, to any proposal submitted under the Request for Proposal identified above.)

1. TYPE OF BUSINESS ORGANIZATION: (check appropriate box)
The offeror represents that he operates as an
☐ individual, ☐ a partnership, ☒ a nonprofit organization,
or ☐ a corporation, incorporated under the laws of
the State of _____.

2. SMALL BUSINESS: (Check appropriate box)
The offeror represents that he ☐ is, or ☒ is not, a small business concern. A small business concern for the purpose of Government procurement is a concern, including its affiliates, which is independently owned and operated, is not dominate in the field of operation in which it is bidding on Government contracts, and can further qualify under the criteria concerning number of employees, average annual receipts, or other criteria, as prescribed by the Small Business Administration. (See Code of Federal Regulations, Title 13, Part 121, as amended, which contains detailed industry definitions and related procedures.)
Number of employees _____

3. CONTINGENT FEE: (Check appropriate boxes)
The offeror represents (a) that he ☐ has, ☒ has not, employed or retained any company or person (other than a full-time bona fide employee working solely for the offeror) to solicit or secure this contract, and (b) that he ☐ has, ☒ has not, paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the offeror) any fee, commission, percentage, or brokerage fee contingent upon or resulting from the award of this contract; and agrees to furnish information relating to (a) and (b) above, as requested by the contracting officer. (NOTE: For interpretation of the representation, including the term "bona fide employee," See Code of Federal Regulations, Title 41, Chapter 1, Subpart 1-1.5.)

4. EQUAL OPPORTUNITY: (Check appropriate boxes)

The offeror represents that he [X] has, [ ] has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause herein or in accordance with Executive Orders No. 10925, 11114, or 11246 as amended by No. 11375; that he [X] has, [ ] has not, filed all required compliance reports; and that representations indicating submission of required compliance reports, signed by proposed subcontractors will be obtained prior to subcontract awards.

In regard to the above Equal Opportunity in Employment Representation, if you certify that you have practiced in a previous contract, subject to the Equal Opportunity clause stated in the contract (or the Request for Proposals) or the clauses referred to in the above certification, but have not been requested or required to file compliance reports, then you should check the box reading "that he has, filed all required compliance reports."

AFFIRMATIVE ACTION PROGRAM:

The offeror represents that (1) he [X] has developed and has on file, [ ] has not developed and does not have on file, at each establishment affirmative action programs as required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or (2) he [ ] has not previously had contracts subject to the written affirmative action program requirement of the rules and regulations of the Secretary of Labor.

5. REGULAR DEALER-MANUFACTURER: (Check appropriate box)

The offeror represents that he is a [ ] regular dealer in, [ ] manufacturer of, the supplies offered. NOT APPLICABLE

6. BUY AMERICAN CERTIFICATION: (Complete as appropriate)

The offeror hereby certifies that each end product, except the end products listed below, is a domestic source end product (as defined in the clause entitled "Buy American Act"); and that components of unknown origin have been considered to have been mined, produced, or manufactured outside the United States: NOT APPLICABLE

Excluded end products (show country origin for each):

_____

_____

7. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION:

(a) By submission of a proposal, the offeror certifies and in the case of a joint proposal each party thereto certifies as to its own organization, that in connection with this procurement:

(1) The prices on this proposal have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other offeror or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this proposal have not been knowingly disclosed by the offeror and will not be knowingly disclosed by the offeror prior to award directly or indirectly to any other offeror or to any competitor; and

(3) No attempt has been made or will be made by the offeror to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition.

(b) Each person signing this proposal certifies that:

(1) He is the person in the offeror's organization responsible within that organization for the decision as to the prices being offered herein and that he has not participated, and will not participate, in any action contrary to (a)(1) through (a)(3) above; or

(2) (i) He is not the person in the offeror's organization responsible within that organization for the decision as to the prices being offered herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated and will not participate in any action contrary to (a)(1) through (a)(3) above, and as their agent does hereby so certify; and

(ii) He has not participated, and will not participate, in any action contrary to (a)(1) through (a)(3) above.

(c) This certification is not applicable to a foreign offeror submitting a proposal for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

(d) A proposal will not be considered for award where (a)(1), (a)(3), or (b) above has been deleted or modified. Where (a)(2) above has been deleted or modified, the proposal will not be considered for award unless the offeror furnishes with the proposal a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

8. CERTIFICATION OF NONSEGREGATED FACILITIES:

By signing this offer, the offeror or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The offeror or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas; parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to award of subcontracts exceeding $10,000 which are not-exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that-he will forward the following notice to such proposed subcon-tractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

Notice to prospective subcontractors of requirement for certifications of nonsegregated facilities:

A Certification of Nonsegregated Facilities must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

9. ROYALTY INFORMATION:

When the response to this solicitation contains costs or charges for royalties totaling more than $250, the following information shall be furnished with the proposal on each separate item of royalty or license fee:

(i) name and address of licensor;

(ii) date of license agreement;

(iii) patent numbers, patent application serial numbers or other basis on which the royalty is payable;

(iv) brief description, including any part or model numbers of each contract item or component on which the royalty is payable;

(v) percentage or dollar rate of royalty per unit;

(vi) unit price of contract item;

(vii) number of units; and

(viii) total dollar amount of royalties.

DD Form 783, Royalty Report, is approved for use in furnishing the above information. In addition, if specifically requested by the contracting officer prior to execution of the contract, a copy of the current license agreement and identification of applicable claims of specific patents shall be furnished.

NOT APPLICABLE

10. PRINCIPAL PLACE OF PERFORMANCE:

The location of the plant or place of business where the item(s) will be produced or supplied or where the services will be performed under the contract is:

City PORTLAND County MULTNOMAH State OREGON

(For the purpose of this provision, "principal place of performance" means the prime contractor's final assembly point of a manufactured article, or place where a service is performed for the Government.)

11. PROMPT PAYMENT DISCOUNT: Discounts will be allowed for prompt payment as follows:

_____percent, 20 calendar days; _____ percent, 30 calendar days.

(NOTE: Prompt payment discounts offered for payment within less than 20 calendar days will not be considered in evaluating proposals for award.)

12. HANDICAPPED: The offeror certifies with respect to the Employment of the Handicapped clause as follows:

(1) He [ ] has, [XX] has not previously been awarded a contract which included the clause.
(If affirmative, execute 2.)

(2) The time specified for contract performance [ ] exceeded 90 days, [ ] did not exceed 90 days.
(If more than 90 days, execute 3.)

(3) The amount of the contract was [ ] less than $500,000, [ ] has, [ ] has not published his program for the employment of the handicapped.
(If more than $500,000, execute 4.)

(4) He [ ] has, [ ] has not submitted the required annual report to the Assistant Secretary of Labor for Employment Standards.

(5) He [ ] has, [ ] has not made a good faith effort to effectuate and carry out his affirmative action program.

(6) He will not award subcontracts to persons or concerns that have not published programs and submitted annual reports as required by the clause.

13. MINORITY BUSINESS ENTERPRISE: The offeror represents that he [ ] is, [X] is not, a minority business enterprise. A minority business enterprise is defined as a "business, at least 50 percent of which is owned by minority group members or, in case of publicly owned businesses, at least 51 percent of the stock of which is owned by minority group members." For the purpose of this definition, minority group members are Negroes, Spanish-speaking American persons, American-Orientals, American-Indians American-Eskimos, and American-Aleuts.

14. CLEAN AIR AND WATER CERTIFICATION: (Applicable if the bid or offer exceeds $100,000, or the contracting officer has determined that orders under an indefinite quantity contract in any year will exceed $100,000 or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c)(1)) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA, or is not otherwise exempt

The bidder or offeror certifies as follows:

(a) Any facility to be utilized in the performance of this proposed contract has [ ], has not [X], been listed on the Environmental Protection Agency List of Violating Facilities.

(b) He will promptly notify the contracting officer, prior to award, of the receipt of any communication from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that any facility which he proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities.

(c) He will include substantially this certification, including this paragraph (c), in every nonexempt subcontract.

TO BE COMPLETED BY OFFEROR

NAME OF OFFEROR

DATE

BY (Signature)
F. B. Klaboe

TITLE
Chief of Operations

PROPOSED FCP PROJECT 2D REVIEW

"Priority Techniques for High Occupancy Vehicles"
Columbus, Ohio

Monday, November 7, 1977

9:15 - 9:45 HOV Movie
10:00 - 12:00 The Federal Prospectives Panel

Don Morin - Planning
Roger Scott - Engineering
Chet Phillips - Traffic Operations
Joe Goodman - UMTA
John Balshaw - Region

1:30 - 3:00 The State Prospectives Panel

Max Klotz - Oregon DOT - Banfield Freeway
Gary Bork - CALTRANS - California Experiences
Gary Price - Florida DOT - I-95 Miami
Glen Carlson - Minnesota DOT - I-35W

3:15 - 4:30 The City Prospectives Panel

John Erdman - Baltimore
Bill Roach - Seattle
Ira Pierce - Philadelphia
Dan Hoyt - Buffalo
Jim Musick - Columbus

4:30 - 5:00 Overview Summary for the Day

Tuesday, November 8, 1977

8:00 - 9:45 Research Issues Panel

Craig Miller	Safety & Enforcement	BHA
Rick Pain	Special Use Lanes	BioT
Fred Wagner	Carpool Programs	FAW

10:00 - 11:00 Implementation Tools Panel

Gary Hebert	Manual	PTI
Adolf May	Simulation	ITS
Morey Rothenberg	Overview of Experience	JHK

11:00 - 12:00 Research Needs

Howard Bissell - Open Discussion

NOVEMBER 7	NOVEMBER 8	NOVEMBER 9	NOVEMBER 10	NOVEMBER 11
7:30 - 8:15 Registration 8:15 - 9:00 Welcome and Overview Cat. 1, 2, and 3	8:00 - 12:00 1Y 2D 3E	8:00 - 12:00 2L 3H 2M	8:00 - 12:00 1H 1U 2L Planning	8:00 - 12:00 1W
9:15 - 12:00 1E 1O 2D				
12:00 - 1:30 Lunch	12:00 - 1:30 Lunch	12:00 - 1:30 Lunch	12:00 - 1:30 Lunch	
1:30 - 5:30 1E 1O 2D	1:30 - 5:00 1Y 3E Planning	1:30 - 5:00 1U 2L 3H	1:30 - 5:00 1W 1U 2M-2L joint session	
6:00 - 7:30	6:00 - 7:30	6:00 - 7:30	6:00 - 7:30	
	1:30 - 5:45 Tour TRC	1:30 - 5:45 Tour TRC 7:30 Dinner		

FILE COPY
JUL 14 1977
C.C.R.D. - METRO

PROJECT 1E

TENTATIVE AGENDA

9:15 - 9:45	INTRODUCTION AND SUMMARY OF RESULTS TO DATE
9:45 - 10:30	PROVISIONS FOR ELDERLY AND HANDICAPPED PEDESTRIANS
10:30 - 10:45	BREAK
10:45 - 11:30	COMMUNITY WIDE SEPARATE PEDESTRIAN NETWORKS
11:30 - 12:00	CAUSATIVE FACTORS AND COUNTERMEASURES FOR RURAL AND FREEWAY PEDESTRIAN ACCIDENTS
12:00 - 1:30	LUNCH
1:30 - 2:45	URBAN INTERSECTION IMPROVEMENTS FOR PEDESTRIAN SAFETY
2:45 - 3:30	MODEL PEDESTRIAN SAFETY PROGRAM
3:30 - 3:45	BREAK
3:45 - 4:30	EFFECTIVE TREATMENTS OF OVER AND UNDERCROSSINGS FOR USE BY BICYCLISTS, PEDESTRIANS AND THE HANDICAPPED
4:30 - 5:00	INCENTIVES FOR NONMOTORIZED TRANSPORTATION
5:00 - 5:30	FUTURE DIRECTIONS - WHERE DO WE GO FROM HERE?

TENTATIVE 1H AGENDA

TIME	TITLE	SPEAKER
8:00	1H Introduction	Pilkington
8:05	Summary of 2nd International Skid Prevention Conference	Spaide
8:25	Open Graded Asphalt Friction Courses	Liddle
8:40	Discussion	Liddle
8:50	Pavement and Geometric Design to Minimize Highway Hydroplaning	Gallaway
9:05	Discussion	
9:15	Detection of Highway Hydroplaning Potential	King
9:30	Discussion	King
9:40	Coffee Break	
10:00	Macro-Texture and Skid Resistance Counter Measures	Blackburn
10:15	Discussion	Blackburn
10:25	Wet Weather Safety Index	Ivey
10:40	Discussion	Ivey
10:50	Services at a Field Test and Evaluation Center	Whitehurst
11:05	Discussion	Whitehurst
11:15	1H Critique	Pilkington
11:25	Discussion	Pilkington

PROJECT 10 AGENDA

Monday, November 7, 1977

Project Manager: Janet Coleman

Topic	Speaker	Major Participants
9:15 - 11:00 a.m.		
a. Signing - Passive Signs	Koziol, TSC	Kull, Bolon/Carney
- Stop Signs	Sanders, BioT.	True/Ryan
MUTCD and Chapter 8	Burnham, Ga. DOT	
MUTCD Handbook	Burnham, Ga. DOT	
b. Signals	Ruden, MBA	Crovello Foley Schulte Rice Shoemaker Waller
11:00 - 12:00 a.m.		
a. Surfaces and Geometrics	Olson, TTI	Gay Kull
1:00 - 2:00 p.m.		
a. Economic Liability Analysis	B. George, FRA	Kull Amos
b. Measures for Evaluating Crossing Improvements	G. Stewart, FHWA	Bolon/Carney Waller
2:15 - 5:30 p.m.		
a. Handbook on RRGC Practices	Pinnell, TTI Carney, FHWA	True/Ryan Williams Bolon
b. New Studies		
(1) Constant Warning Time Devices	Contractor	Ruden Mirabella Hopkins Amos Schulte Rice Shoemaker Waller
(2) Active Advance Warning Signals	Contractor	
(3) Off-Track Train Detection	Contractor	

FCP MEETING AGENDA
PROJECT 1U

Wednesday November 9, 1977

1:30 - 2:00 Introduction and Overview
Michael Freitas, Project Manager

2:00 - 4:00 "The Effect of Truck Size and Weight on Accident Experience and Traffic Operations"
Martin Reiss and Fred Hanscomb
Co-Principal Investigators

4:00 - 5:00 "Reduction of Adverse Aerodynamic Effects of Large Trucks"
David Weir, Principal Investigator

Thursday November 10, 1977

8:00 - 9:00 "The Effect of Truck Size on Driver Behavior"
Edmond Seguin, Principal Investigator

9:00 - 10:00 "Assessment of Driver Attitudes Toward Increased Truck Size and Weight"
Principal Investigator (Contract not yet awarded)

10:00 - 11:00 "Grade Severity Rating System"
Walter Johnson, Principal Investigator

11:00 - 12:00 "Evaluation of Techniques to Counteract Truck Accidents on Steep Downgrades"
Principal Investigator (Contract not yet awarded)

1:30 - 2:15 "Simulation of Effects of Increased Truck Size and Weight"
Principal Investigator (Contract not yet awarded)

2:15 - 3:00 "Validation of Simulation Results"
Principal Investigator (Contract not yet awarded)

3:00 - 3:45 "Instrumentation of Test Truck for Measuring Vehicle - Pavement Interaction"
Principal Investigator (Contract not yet awarded)

3:45 - 4:15 "Simulation of Cargo Shifting Effects on Vehicle Handling"
Paul Bohn, Principal Investigator

4:15 - 5:00 "Effect of Cargo Shifting on Vehicle Handling"
Robert Anderson, Principal Investigator

May 13, 1977

1977 FCP Conference

Tentative Agenda for Review of New Project 1-W

Skid Resistance Inventory Procecures and Equipment

Thursday p.m.November 10 and Friday a.m. November 11, 1977

James M. Rice, Project Manager

Thursday p.m.		
1:00	**Identification and Definition of Problem**	
	Seasonal and Short Term Changes in Skid Resistance	J. Rice
	Measurement Factors	R. Hegmon
	Case Studies by States	Penn. DOT
		Louisiana (?)
3:00	**Present Status and Use of Skid Test Results**	
	FHWA Highway Safety Standard 12	Office of Highway Safety
	FHWA IM-21-2-73 (FHPM)	Office of Engineering
	FHWA Measurement Guidelines	Office of Development
	States' Experience	State Representatives
Friday a.m.		
8:00	**On-Going and Proposed Research**	
	Models for Adjusting Measurements	Pa. State University/ Penn. DOT
	Models for Adjusting Measurements	R. Hegmon

-more-

(continued)

Friday

a.m.

8:45 Causes and Processes of Real Changes in

Pavement Friction

For Asphalt Concret Pavements

For Portland Cement Concrete

9:30 Test Equipment and Procedures

Measurements Systems for Critical Sites

Texture and Other Surface Conditions

10:15 Cost Effectiveness in Reducing Accidents

10:30 Open Discussion and Summation

Richard E. Hay

Thomas J. Pasko, Jr.

PROPOSED FCP PROJECT 1Y REVIEW

"Traffic Management in Construction and Maintenance Zones"
Columbus, Ohio

Tuesday, November 8, 1977

8:00 - 8:30	Project Overview	D. Robertson
8:30 - 9:30	Research Findings to Date	D. Robertson & J. Graham
9:30 - 9:45	Coffee Break	
9:45 - 10:45	Work Session on Problem in Work Zones	
10:45 - 11:00	Summary of Problems	D. Robertson
11:00 - 12:00	Current Studies	
	Problem Identification	Principal Investigator
	Planning and Scheduling	Principal Investigator
12:00 - 1:30	LUNCH	
1:30 - 2:45	Current Studies (con'd)	Principal Investigator
	Arrow Boards	R. Spiecher
	NCHRP 17-4	J. Fell
	NHTSA Accident Study	T. Mast
	FHWA Staff Study	
2:45 - 3:00	Coffee Break	
3:00 - 4:00	Work Session on Research Needs and Project Direction	
4:00 - 4:30	Summary of Needs and Direction	D. Robertson

PROJECT 2L TENTATIVE AGENDA
DETECTION AND COMMUNICATIONS FOR TRAFFIC SYSTEMS
Wednesday November 9, 1977

8:00-8:30 - OVERVIEW - FRANK J. MAMMANO

8:30-12:00 - COMMUNICATIONS
HAR Film - FHWA
Ira Pierce - DVRPC
Glen Carlson - Minnesota DOH
W. Dorsey - FHWA
F. Gatling - FHWA

1:30-3:00 - COMMUNICATIONS (Cont'd)

C. Dudek - TTI
G. Mast - FHWA

3:15-5:00 - MOTORIST AID

R. Wallace - Georgia Tech
J. Bernard - NHTSA

Thursday November 10, 1977

8:00-10:30 - DETECTION

Chris Carl - JPL
M. Mills - FHWA
W. Dorsey - FHWA

10:30-12:00 - ROUTE GUIDANCE

F. Mammano - FHWA
B. Stephens - FHWA
L. Saxton - FHWA
D. Rosen - FHWA
N. Gartner-FHWA

Proposed FCP Project 2M Review
"Arterial Flow and Control"

Wednesday - November 9, 1977

8:00-8:30 - OVERVIEW OF PROJECT 2M

John MacGowan

8:30-9:30 - CAPACITY AND QUALITY OF FLOW

Guido Radelat
Bob Blumenthal
Jim Kell
Art Carter
RFP 340-7 Contractor (P.I.)
NCHRP 3-28 Contractor (P.I.)

9:30-9:45 - COFFEE BREAK

9:45-11:00 - ARTERIAL SIGNAL CONTROL

(Participants to be selected)

11:00-12:00 - SYSTEMS EVALUATION

(Participants to be selected)

Proposed FCP Projects 2L/2M (Joint Session) Review
"Detection and Communications" (2L) and "Arterial
Flow and Control" (2M)

Thursday - November 10, 1977

1:30-1:45 - INTRODUCTION

John MacGowan
Frank Mammano

1:45-3:30 - BUS DETECTION AND PRIORITY STRATEGIES

Roger Lubke
Bob Ellington
Barbara Reichart
Denis Symes
Ivan Dommasch

3:30-3:45 - COFFEE BREAK

3:45-5:30 - DISTRIBUTED TRAFFIC CONTROL SYSTEMS

Joe Roehl
Bob Wittner
John Kluga
Lee Sanderson
Roy Kessmann

TENTATIVE AGENDA
1977 FCP CONFERENCE
PROJECT 3E
"REDUCTION OF ENVIRONMENTAL HAZARDS TO WATER RESOURCES DUE TO THE HIGHWAY SYSTEM"

Midstream Review Tasks 2, 3, & 4
Evaluation and Reduction of Water Quality Changes Due to Highway Construction Operation and Maintenance

Columbus, Ohio
November 8, 1977

8:00 Welcome and Opening remarks: Byron Lord, Project Manager

8:10 SESSION ON EFFECTS OF HIGHWAY CONSTRUCTION ON WATER QUALITY
Task 2 Short Overview of Research Activities - Byron Lord, Project Manager

"Prediction of Sediment Flows from Highway Construction Projects"

Dr. Art Miller - Penn State University
Mr, Lloyd Reed - USGS - Penn

9:30 Coffee Break

"Impacts of Highway Construction on Water Quality"

Mr. George Cramer - La DOT
Mr. Richard Howell - Cal Trans

"Region 15 - Demonstration Projects"

Mr. Bill Ballanger - FHWA Region 15
Mr. Dennis Richards - FHWA Region 15

"Water Quality Workshops"

Mr. Dan O'Connor FHWA - Development

12:00 - 1:30 LUNCH

1:30 SESSION ON EFFECTS OF HIGHWAY RUNOFF ON WATER QUALITY - Task 3
Short Overview, Research Activities - Byron Lord - Project Manager

"Constituents of Highway Runoff"

Dr. Robert Agnew - Envirex
Mr. Earl Shirley - Cal Trans
Mr. Rod Moe - Texas DHPT
Mr. Robert Aye - Wash. DOH

3:00 BREAK

"Source and Migration of Highway Runoff"

Speaker to be determined

"Environmental Effects of Highway Runoff"
Panel Discussion (Session Speakers)

Urban Water Quality

Mr. M. B. McPherson - ASCE
Mr. Harry Barnes - USGS

4:30 SESSION ON EFFECTS OF HIGHWAY MAINTENANCE ON WATER QUALITY -
Task 4 - Short Overview Byron Lord - Project Manager

Deicing Practices

Lennie Frost - USGS Boston

Bridge Painting

Rich Howell - Cal Trans

5:45 SUMMARY AND CONCLUSIONS

*Format of Session will be presentations followed by discussions.

TENTATIVE AGENDA

FCP PROJECT 3-H: "PROCEDURES FOR INTEGRATION OF PUBLIC NEEDS AND CITIZEN CONCERNS IN THE LOCATION AND DESIGN OF HIGHWAYS."

1977 FCP Technical Conference
November 7 - 11, 1977
Columbus, Ohio

WEDNESDAY, NOVEMBER 9, 1977

8:00-8:30 PROJECT OVERVIEW

8:30-10:15 SOCIAL AND ECONOMIC IMPACT IDENTIFICATION, ANALYSIS AND MITIGATION

Panel discussion of Action Plans -- The concept and strategy of action plans in the Federal highway program -- Federal role -- State and local agency roles -- Criteria for evaluation of action plans -- Problems of evaluation and plan development.

State-of-the-art in social and economic impact analysis.

State of current practice in impact analysis.

Needs for realizing full potential of the state-of-the-art in practice.

10:15-10:30 BREAK

10:30-12:00 CITIZEN INVOLVEMENT

Public responsibility for private participation -- Federal, State, local and private roles -- Defining program objectives -- Selecting program strategies -- Coordination problems.

State-of-current-practice in citizen involvement programs.

State-of-the-art in citizen involvement techniques and programs.

Measuring the effectiveness of citizen involvement.

Problems of streamlining citizen involvement procedures, and research needs. Designing case studies for evaluation of citizen involvement programs.

12:00-1:30 LUNCH

1:30-3:15 MEASURING IMPACTS AND PUBLIC ATTITUDES.

Lessons learned from successful programs. -- Criteria for selection of effective techniques.

Expanding access to critical information and insight on issues and trade-offs. -- Communications planning. -- Simulation techniques.

Identifying impact areas and community elements: suggested approaches to future research.

Evaluation of the potential in attitude assessment.

Designing case studies for impact analysis and attitude assessment.

3:15-3:30 BREAK

3:30-4:30 IMPLEMENTATION OF IMPACT ASSESSMENT AND CITIZEN INVOLVEMENT TECHNIQUES.

Panel discussion of major areas of implementation problems -- Selection of effective techniques -- Program level vs. project level approaches -- Problems of apathy and credibility -- Red tape reduction -- Roles for research, program management studies, evaluation exercises, and demonstration projects.

4:30-5:00 SUMMATION.

Tentative Outline for Planning
FCP Session
Tuesday, 1:30 - 5:30
November 8, 1977

Transportation System Management

1:30 - 1:50 — Overview of joint planning regulations with focus on TSM aspects; status of TSM institutional, technical process, funding, and implementation aspects - FHWA, Office of Highway Planning

1:50 - 2:00 — (1) TSM Planning - Institutional and technical process related case studies - FHWA/UMTA introduction

2:00 - 2:40 — UMTA/ FHWA Case Studies -- Contractors and State/local representatives

2:40 - 3:10 — Discussion period on results and further research needs

3:10 - 3:30 — Break

3:30- 3:40 — (2) Ridesharing Research - overview of ridesharing programs - FHWA, Urban Planning Division

3:40 - 4:20 — Carpool Program Evaluation Study - Contractor
Ridesharing Behavioral Studies - FHWA/Contractor

4:20 - 4:50 — Discussion period on results and further research needs

4:50 - 5:30 — (3) Other studies - e.g., parking management, pedestrian, and elderly and handicapped planning procedures

TENTATIVE AGENDA

"EVALUATING SOCIAL AND ECONOMIC EFFECTS OF TRANSPORTATION PROGRAMS AND POLICIES"

THURSDAY NOVEMBER 10, 1977

8:00-12:00 TECHNIQUES FOR EVALUATING FUTURE ECONOMIC EFFECTS OF ALTERNATIVE TRANSPORTATION POLICIES AND PROGRAMS

Overview.	FHWA, Socio-Economic Studies Division
Experience at the State and local levels.	
Maryland	State DOT
Georgia Land Use Model	Principal Investigator-University of Georgia
Applications of the Multiregional-Multi-industry forecasting technique	FHWA, Socio-Economic Studies Division
Further research and research needs from a user perspective.	
Expansion of Multiregional-Multi-industry forecasting technique to different geographical levels and proposed user manual.	
Question and answer period: User perspective on Multiregional-Multi-industry forecasting technique - user needs, strengths, and weaknesses.	
Usefulness of regional input-output analysis to State and regional transportation planners - research in progress under NCHRP Project 8-15A.	Transportation Research Board
Question and answer session.	

8259

8

ROBERT W. STRAUB
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310

July 25, 1977

RECEIVED
STATE HWY ENGR
AUG 8 '77
REFER TO
FOR

Miss Darlene Fike
11107 SE Stark
Portland, Oregon 97216

Dear Miss Fike:

I understand that an official of the Oregon Department of Transportation has responded to a similar letter you sent to them on the Banfield restricted lane.

You suggested that the Banfield situation be re-evaluated. This is being done. You might also like to know that the current High Occupancy Vehicle lane is an experimental project. In that sense, it is temporary and will be replaced by something much more effective and usable.

Sincerely,

Governor

RWS:cb

bcc: Dept. of Transportation

COPY

#8259

8

ROBERT W. STRAUB
GOVERNOR

Department of Transportation
METROPOLITAN SECTION
5821 N.E. GLISAN, PORTLAND, OREGON 97213

July 20, 1977

Telephone 238-8235

RECEIVED
STATE HWY ENGR
JUL 22 '77
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

1-22-77
cy Brunem

DARLENE MAE FIKE
11107 Southeast Stark
Portland, OR 97216

It must have been disconcerting to be stopped by the state police for improper use of the HOV lanes as you mentioned in your letter of July 14. I hope this letter will clarify the purpose of the HOV lanes on the Banfield Freeway.

The HOV lane project was initiated as part of the regional transportation plan which places a major emphasis on transit to absorb the growth in movement in the metropolitan area. It complies with the Clean Air Act of 1970 which calls for a reduction in auto travel in the central business district in order to improve air quality currently exceeding standards established by the federal government.

The approach on the Banfield Freeway was to not allow a duplication of events occurring in cities such as Los Angeles where the growth in use of the auto was allowed to develop without a transit facility. After that growth had occurred, a transit plan was introduced by removing auto lanes. In Portland, the intent is to provide an attractive alternative to the auto during growth in the area in order that they may occur simultaneously.

The objectives of the HOV lanes are to increase the people-carrying capacity of the freeway, to fulfill the guidelines of the Clean Air Act, and to increase fuel efficiency. Some excerpts from the last quarterly evaluation of the project are as follow:

1. The Banfield Freeway has absorbed a 9 percent growth in vehicles in the last 15 months of the study, and is moving 28 percent more people during the rush hours.

2. The HOV lanes are carrying 20 percent of the persons using the freeway during the rush hours, and 5 percent of the vehicles.

3. Speeds in the regular auto lanes are averaging 33 m.p.h. during the p.m. peak hour, compared to 30 m.p.h. in 1975; and 36 m.p.h. during the a.m. peak hour, compared to 38 m.p.h. in 1975. (This is with the 9 percent growth in vehicles.)

4. Ridership in both buses and carpools continues to increase. The "Banfield Flyers" are carrying 525 patrons, compared to 300 in January 1976. The carpools have increased from 106 to 525. These statistics were taken during the critical peak hour.

While growth has been slow, programs to attract more usage will begin in the near future.

If you have further questions, please write to me at the above address.

Original Signed by D. R. ADAMS

D. R. ADAMS
Transitways Project Engineer

mb

bc: [redacted] Coulter

Envelope
(Addressed to State Highway Dept.)

July 14, 1977

Dear Sir:

At ~~5~~ 5:50 ~~A~~m on July 1, 1977 I was guilty of using the car pool lane #30 Freeway going into Portland.

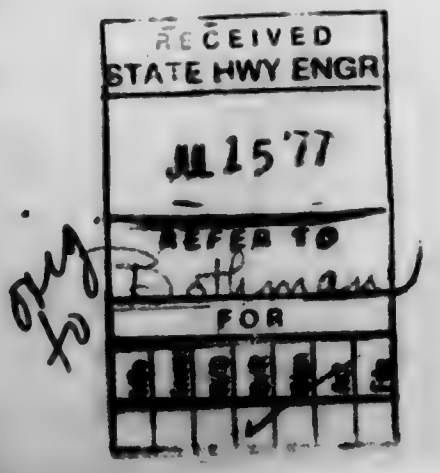
I didnt realize that it was a law not to travel in that lane. I was traveling at the rate of 40-45 miles an hour in the next lane with cars lined up bumper to bumper There was no one in the car pool lane - By deduction I decided it was foolish not to use the car pool lane I was stopped by a trooper who was very nice in explaining why I couldnt do it. I thought it was a courtesy to stay out of the car pool lane.

I believe in the car pool lane if it is being used properly. It seems to me the lane needs to be re-evaluated to the time when it is used and how many cars are using it. The other day a bus was in our lane -

I would like to know if the Car pool lane is a service to the public

Thanks

Sincerely yours
Darlene MacFhe
11107 SE Stark
Portland Oregon 97216



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Trans.

prepare draft reply
Governor's signature
7/25
you.

RECEIVED
JUL 15 1977
Governor's Office

July 14, 1977

Dear Gov Straub.

At 8:25 am on July 1, 1977 I was guilty of using the car pool lane on the Banfield Freeway Coming into Portland.

I didnt realize That it was a law not to travel in that lane. I Thought it was a courtesy to stay out of the car pool lane. I was traveling at the rate of 40-45 miles an hour in the next lane with cars lined up bumper to bumper. By deduction I decided it was realistic not to use the car pool lane. I was stopped by a nice trooper who was good at explaining why I couldnt do it.

I believe in the car pool lane if it is being used properly. It seems to me The lane needs to be re evaluated to the time when it is used and how many cars are using it. The other day a bus was in our lane

I would like to know if the car pool lane is a service to the public

Thanks

Sincerely yours
Darlene Fike
11107 SE Stark
Portland Oregon 97216

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STATE HWY ENGR
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DIRECTOR OF TRANSPORTATION

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O. S. H. D. - METRO
JUL 22 1977
FILE T/A

July 20, 1977

Vern Cook
519 NE 4th
Gresham, Oregon

Dear Senator Cook,

I heard you yesterday on the radio stating that you were contacting the highway division in Salem about the HOV lanes on the Banfield freeway. You stated that you felt they were not being used as much as they could be and that only a few people were taking advantage of them. As I recall, your recommendation was to open up the HOV lanes to more traffic by doing away with the present restrictions.

I realize that some people resent those who move speedily past them in the HOV lanes. And, I realize that the HOV lanes are not being used to their full potential. But, rather than scrap this method of encouraging mass transit (with its related benefits), I would propose that the highway division take steps to involve more people in carpooling. An advertising campaign, help in locating riders (in addition to the CARPOOL number), and facilities for parking cars are only a few possibilities.

Rather than succumb to the present pressures and reasons for doing away with the HOV lanes, I would hope that you would consider improving those lanes. As our population continues growing, mass transit is going to be more and more necessary. We all need to begin thinking about and practicing conservation of energy.

I hope that you'll reconsider your present position. The principle behind the HOV lanes is sound even though the use needs to be encouraged. I would like to see you speaking for improvements which would make this system more effective.

Sincerely,

Marilyn Pitts

Ms. Marilyn Pitts

cc State Highway Department
5821 NE Glisan, Portland

NOTED
F. B. KLABOE

#1259

SALEM I
HOV

OREGON ENVIRONMENTAL COUNCIL

2637 S.W. WATER AVENUE, PORTLAND, OREGON 97201 / PHONE: 503/222-1963

July 18, 1977

Bob Burco, Director Dept. of Transportation
135 State Highway Building
Salem, OR 97310

Dear Bob:

This letter confirms my telephone call to your office on Friday, July 15 concerning the issue of HOV lanes in the Banfield freeway. We were notified by your office that the subject of HOV lanes is not on the agenda for the Tuesday, July 19 Transportation Commission meeting. Also, because of the nature of the subject, we understand that it will be brought before the Commission in a formal way at a future meeting.

As we advised you, the Oregon Environmental Council intends to raise legal and administrative issues concerning changes in the HOV lanes. Therefore we request formal advance notice of any Commission meeting on the subject.

Very truly yours,

Vernon L. Rifer et

Vernon L. Rifer
President

VR/rlu
cc: Charlie Merten

A.F.T.E.R. Tigard
AMERICAN ASSOCIATION OF UNIVERSITY WOMEN
Portland Chapter
AMERICAN INSTITUTE OF ARCHITECTS
Portland Chapter
Southwestern Oregon Chapter
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
Oregon Chapter
ASSOCIATED GENERAL CONTRACTORS OF AMERICA
AUDUBON SOCIETY, Central Oregon, Corvallis, Portland, Salem
BAY AREA ENVIRONMENTAL COMMITTEE
Coos Bay
CENTRAL CASCADES CONSERVATION COUNCIL
CHEMEKETANS, Salem
CITIZENS FOR A CLEAN ENVIRONMENT
Corvallis
CITIZENS FOR A BETTER GOVERNMENT
CLATSOP ENVIRONMENTAL COUNCIL
EAST SALEM ENVIRONMENTAL COUNCIL
ECO-ALLIANCE, Corvallis
EUGENE FUTURE POWER COMMITTEE
EUGENE NATURAL HISTORY SOCIETY
FRIENDS OF THE EARTH
GARDEN CLUBS of Cedar Mill, Corvallis, Nehalem Bay, Scappoose
GREENPEACE OREGON
LAND, AIR, WATER
Eugene
LEAGUE OF WOMEN VOTERS
Central Lane
Coos County
McKENZIE FLYFISHERS, Eugene
McKENZIE GUARDIANS, Blue River
NORTHWEST ENVIRONMENTAL DEFENSE CENTER
NORTHWEST STEELHEADERS COUNCIL OF TROUT UNLIMITED, Crater Lake, Corvallis, Tigard, Willamette Falls
OBSIDIANS, INC., Eugene
1,000 FRIENDS OF OREGON
OREGON ASSOCIATION OF RAILWAY PASSENGERS
OREGON BASS AND PANFISH CLUB
OREGON FEDERATION OF GARDEN CLUBS
Pioneer District 13
OREGON GUIDES AND PACKERS
OREGON HIGH DESERT STUDY GROUP
OREGON LUNG ASSOCIATION
OREGON NORDIC CLUB
OREGON PARK & RECREATION SOCIETY
Eugene
OREGON ROADSIDE COUNCIL
OREGON SHORES CONSERVATION COALITION
O.S.P.I.R.G.
PLANNED PARENTHOOD ASSOCIATION, INC.
Lane County
Portland
PORTLAND RECYCLING TEAM, INC.
P.U.R.E., Bend
SANTIAM ALPINE CLUB
Salem
SELLWOOD-MORELAND IMPROVEMENT LEAGUE, Portland
SIERRA CLUB
Pacific Northwest Chapter
Columbia Group, Portland
Klamath, Klamath Falls,
Mary's Peak, Corvallis,
Mt. Jefferson, Salem,
Rogue Valley, Ashland
SOLV
SPENCER BUTTE IMPROVEMENT ASSOCIATION
Eugene
STEAMBOATERS
SURVIVAL CENTER, U. of O., Eugene
TEAMSTERS FOOD PROCESSORS
THE TOWN FORUM, INC.
Cottage Grove
UMPQUA WILDERNESS DEFENDERS
WESTERN RIVER GUIDES ASSOCIATION, INC.
WILLAMETTE RIVER GREENWAY ASSOCIATION

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1 1977
OFFICE
DIRECTOR of TRANSPORTATION

8259

HOME ADDRESS
VERNON COOK
819 N.E. 4TH
GRESHAM, OREGON 97030
665-8143

9

OREGON STATE SENATE
SALEM, OREGON
97310
378-8726

July 18, 1977

Glenn Jackson, Chairman
Oregon Transportation Commission
Dept. of Transportation Bldg.
Salem, Oregon

Dear Sirs:

Unfortunately, we were unable to obtain passage of Senate Bill 578, during the 1977 Session. This does not mean that no action is called for in connection with a change in the use of the HOV lane, in the Banfield Freeway. I understand that the question of a possible change of the HOV lane may come before your Commission, either at this months meeting or at a date in the near future. In view of that, I would like to make the following recommended change of use.

First of all, I'd like to recommend that you abandon the HOV lane entirely and on an experimental basis, as suggested by your advisory committee, test out the unlimited use of the three lanes for all traffic.

In the event that you do not accept my first recommendation, I would like to recommend to you that minimally you should open up the HOV lane to two passenger occupied vehicles, motorcycles, even though occupied by one person, taxi cabs, and PUC licensed trucks. It seems to me that if, in fact, the true purpose of the HOV lane is to expedite traffic and to encourage people to use where possible, fuel efficient vehicles, that there can be no justification for excluding any of the uses I have above described. First of all, there are many vehicles which will only carry two passengers, and I would assume that if you want to encourage multi-passenger use, that it should be the policy to encourage two people using a single vehicle as well as to encourage three people in using a single vehicle. Secondly, a taxi is going to have at least two occupants, on at least one-half of its trip, except in those rare cases where it is carrying parcels. Again, it would seem to be the policy of the state to encourage the limitation on the total number of vehicles available for use on the highway. Certainly, taxis are an important element in that limitation encouragement. Third, with respect to motorcycles, even a one passenger occupied motorcycle is person to person, more fuel efficient than probably any other mode of transportation. It would therefore seem reasonable that they should be able to use the HOV lanes, and motorcyle use should be

NOTED F. B. [illegible]

cc Barnes
Barnes 7-22

encouraged in that way, if in fact, HOV lanes do encourage fuel efficient use. Lastly, trucks licensed for PUC purposes, cannot be any more fuel efficient than they are, since no one can expect trucks to be involved in car pooling operations. Frequently, the trucks will have two passengers, one driving and one asleep, but even when this is not the case, there is no way that the truck could be used more fuel efficiently as far as lane operation is concerned.

Additionally, I understand that on the HOV lane, trucks do have some difficulty because of the width, and occasionally lose side view mirrors. If the trucks were permitted to use the HOV lane, this would not be a problem, at least on the left side of the truck. Another consideration would be that while on the one hand, the outside lanes are receiving heavy use by motor vehicles of all kinds, the HOV lane is not receiving the same level and degree of use that the other two lanes are receiving. It would then seem logical that if we were to divert trucks onto the HOV lane during the restricted time period, that this would tend to equalize the overall use of the three lanes, which, in terms of state economy would seem to make sense.

I would very much appreciate and approve of your acceptance of these proposals, and I would be interested in being advised of your reaction to them.

Sincerely,

Vern Cook,
State Senator

VC/mr
cc: Bob Bothman

THE CITY OF
PORTLAND
OREGON

#8259

M. Kelley

July 13, 1977

OFFICE OF
THE MAYOR
NEIL GOLDSCHMIDT
MAYOR

1220 S. W. FIFTH AVE.
PORTLAND, OR. 97204
503 248-4120

TO: Don Bergstrom
Cowles Mallory
~~Doug~~ Wright

FROM: Neil Goldschmidt

SUBJECT: High Occupancy Vehicle Lane - Banfield Freeway

In the closing hours of the Oregon Legislative Session, a bill was on the floor of the House of Representatives which, if passed, would have virtually disallowed the use of the HOV lane on the Banfield freeway, and subjected that lane to general transportation use. A request was made to have the City of Portland formally involved in opposing that effort. As Mayor of the City of Portland, I communicated with State Representative Glen Otto,in writing, my personal feelings on the whole issue of the HOV lane. I said that I felt the Oregon Department of Transportation needed as much flexibility as possible in managing the HOV lane as they enter into the construction period on the Banfield, and that I would do everything I could to help them achieve that kind of flexibility. I also pointed out, however, the potential problems associated with opening up the HOV lane to general purpose traffic.

When the Oregonian reported on what was done on the House floor with the legislation, it inferred that I had said to Representative Otto that I had absolutely no objection to the passenger requirement being reduced from 3 to 2 people. I believe that that deserves some clarification; and I think the best way to clarify it is to quote verbatim what I said in my letter to Representative Otto. What I said to Representative Otto, and I quote, "specifically with regard to adding cabs, or reducing the passenger requirement from 3 to 2 persons so long as the State Department of Transportation is able to avoid litigation on those subjects, I have no problem with them taking these steps as they have taken other steps to change the operation of the HOV lane."

The critical point in that statement is as long as the Department of Transportation is able to avoid "litigation"; and I'm sure all of you know the HOV lane was initially established through a negative declaration process. I just wanted to make it clear to Representative Otto that I would support reduction of 2 passengers as long as the Department of Transportation felt it could assure that the negative declaration process would still be sound in that reducing the number of passengers would still cause a negative air impact on the region; and that there would not be litigation from other sources by reduction of the number of passengers. If those things can be assured, then my statement would certainly stand that I have no objection to the reduction

cc/ Ben Eng, Lein
for
7-19

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F. B. KLABOE

31-125-1387

of the passengers in the HOV lane. Without those assurances a suit is inevitable and the problems associated with it could very well produce delays in current efforts to improve auto and transit capabilities in the Banfield Corridor.

I hope this will help to clarify, for City personnal, that work with the Department of Transportation, Tri Met, and DEQ what my statement was regarding the HOV issue. If any further clarification is needed, or if you have any additional questions, please feel free to contact Mr. Doug Wright, X4254.

Thank you.

NG/mkr

8259 7-11-77

NOTED
H. S. COULTER

8

HOV Battle Continues

The fight to eliminate the high occupancy vehicle (HOV) lanes on the Banfield Freeway continues — but in fits and starts.

Long unpopular with East County commuters and viewed by many as an attempt to jam mass transit down the public's collective throat, the HOV lanes encountered specific legislative opposition this session.

Sen. Vern Cook pushed a bill through the Senate Transportation Committee which would have eliminated the lanes unless six unrestricted lanes also existed. The bill passed on the Senate floor and went to the House.

Rep. Glenn Otto picked up the fight and got the bill out of committee. But on the second-to-last day of the session, he asked that the bill be killed. One reason was he said he didn't have the votes to pass the measure.

But a second reason was that he said he had received concessions. Portland Mayor Neil Goldschmidt said he would support opening the lanes to vehicles with two passengers (the requirement is now three) and to taxis. State Transportation Commission Chairman Glenn Jackson said he supported the same changes.

That's good to hear but we hope the words are soon translated into action. Jackson has the first chance later this month when his commission takes another look at the Banfield. And we'd like to see Goldschmidt exert some of his widely renowned clout for a cause both popular and practical.

The HOV lanes as an experiment were not a bad idea. However, when an experiment fails to produce expected results and does not solve an existing problem, it should either be scrapped or modified.

And that's where we're at with the HOV lanes. A change is needed and we would support the modifications suggested above.

But we're not getting anywhere with the current regulations. And neither are the drivers in the other Banfield lanes. (BW)

II 8257

7877.8

STATE OF OREGON

INTEROFFICE MEMO

TO: R. N. BOTHMAN
Ass't. State Highway Engineer

DATE: July 7, 1977

FROM: JAMES D. McCLURE
Project Development Engineer

SUBJECT: Mini Monitoring Program
Banfield HOV Lanes

ME PE PRT PR2 DE
C.C.R.D. - METRO
JUL 8 1977
FILE T/A

With the assistance of Jerry Street and Bill McConnel, we have established a continuing monitoring program which Bill can handle at a minimum cost. This effort will require manual counts for the HOV lanes during the AM and PM peak periods, three days per month, which Bill will do in conjunction with his work on the final HOV lane report. These activities will also coincide with the air monitoring (high volume sampler) equipment, requiring a minimum effort on Bill's part until October, at which time a major effort will be initiated. The activities we now monitor are as follows, noting the monitoring to be continued by Bill McConnel or statistical information that can be derived from historical data if there is a need:

1. Occupancy Rates

(1) → a) HOV Lane---continue manual count
b) Normal Lanes---discontinue
c) Tri-Met Occupancy---continue to collect data from Tri-Met

2. Speed Checks (Banfield and Parallel Streets)---discontinue

(2) → 3. HOV Lane Volumes--continue

4. Normal Lane Volumes---can be derived from historical data and permanent counters

5. Violation Rate---continue, no extra effort required

6. Accident Rates---discontinue

7. Accident Rates/Volumes Other Freeways---discontinue

8. Banfield Freeway Volumes---derive from permanent counters

9. Volumes Parallel Streets and Freeway Ramps---discontinue

I feel this minimum effort will provide adequate information to fill the time gap between grants, using the statistical data available through normal channels and our historical base data developed over the past year (ramp and normal lane volume percentages) can be used to extrapolate the needed statistics.

JDM/ldo

cc: Jerry Street
Bill McConnel

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Volume

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ROBERT W. STRAUB
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310

July 1, 1977

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JUL 8 '77
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FOR
Utils. Insp. R/D Dsgn. Surv. Acct. File

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cy to Bain

Mr. Kenneth A. Holmes
Lawyer
960 Broadway Street, N.E. Suite 5
Salem, Oregon 97301

Dear Mr. Holmes:

Let me put the Banfield restricted lanes in perspective.

The Banfield today has exactly the same number of regular lanes as before. The restricted lanes were created by reducing lane widths and eliminating shoulders.

Portland must reduce downtown auto usage in the future because of severe pollution problems. The restricted lanes are an experimental project to determine if such lanes will increase use of car pools and buses.

The most recent quarterly report on the Banfield experiment shows:

1. The Banfield Freeway has absorbed a 9 percent growth in vehicles in the last 15 months of the study, and is moving 28 percent more people during the rush hours.

2. The HOV lanes are carrying 20 percent of the persons using the freeway during the rush hours, and 5 percent of the vehicles.

3. Speeds in the regular auto lanes are averaging 33 m.p.h. during the p.m. peak hour, compared to 30 m.p.h. in 1975; and 36 m.p.h. during the a.m. peak hour, compared to 38 m.p.h. in 1975 (this is with the 9 percent growth in vehicles).

4. Ridership in both buses and carpools continues to increase. The "Banfield Flyers" are carrying 525 patrons, compared to 300 in January 1976. The carpools have increased from 106 to 525. These statistics were taken during the critical, peak-rush hour.

COPY

Again, the Banfield project is an experiment and is not intended to be a solution. Within the next year, a long-range project to improve the Banfield will be selected from a half-dozen alternative proposals now being studied.

Sincerely,

Governor

RWS:cb

bcc: Dept. of Transportation

011640

PLEASE RETURN ORIGINAL LETTER

Please prepare draft reply for Governor's signature by 7-4 Thank you.

KENNETH A. HOLMES
LAWYER
960 BROADWAY STREET, N.E., SUITE 8
SALEM, OREGON 97301
A/C 503-585-5240
A/C 503-228-6340

June 23, 1977

RECEIVED
JUN 24 1977
Governor's Office

Honorable Robert Straub
Govenor of the State of Oregon
State Capitol Building
Salem, Oregon 97310

Dear Govenor Straub:

This morning while driving down the Banfield Freeway in the congested two-lane portion of the freeway, I enjoyed observing the carless restricted lane.

I am amused at your energy conservation efforts and wonder just how much more energy is used by the constant starting and stopping of the thousands of automobiles in the two lane portion of the freeway as compared to the tremendous energy savings of the three cars and two buses I observed for the entire 15 minutes in the restricted lane.

It would appear to me that there are more intelligent methods of conserving energy.

Best personal regards.

Cordially,

Kenneth A. Holmes

KAH:mo

P.S. In view of the meager use of the restricted lane, I question whether such use of the state's constitutional police power would be sustained in opposition to my rights to equality under the Constitution.

cc: Honorable James Redden
Attorney General
Justice Department
State Office Building
Salem, Oregon 97310

Robert Burco, Director
Department of Transportation
Transportation Building
Salem, Oregon 97310

RECEIVED
STATE HWY ENGR
JUN 27 '77
REFER TO Bothman
FOR
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JUN 27 1977
OFFICE
DIRECTOR of TRANSPORTATION

FORTLAND
OREGON

OFFICE OF
THE MAYOR
NEIL GOLDSCHMIDT
MAYOR

1220 S W FIFTH AVE
PORTLAND, OR 97204
503 248-4120

July 1, 1977

Glenn E. Otto
State Representative
1225 E. Columbia
Troutdale, OR 97060

Re: Bill 578

Dear Representative Otto:

Following our several conversations on the phone concerning the management of the high occupancy vehicle lane, I would like to set down in writing what my feelings about it are.

From the very beginning of this development, it has been an experiment. It is lacking some features that a first quality HOV system needs, the most predominant of which is a full length of corridor capability connecting to intersecting highways. In this case, the Banfield HOV lane doesn't have the capability to connect to the Gateway area or directly to the Steel Bridge. In any event, as an experiment to try to reduce congestion and air pollution, I thought from the beginning it was worth the effort and the limited amount of funds necessary to make the experiment possible -- particularly if the total number of auto lanes was not reduced. A great deal of discussion as ensued subsequently about how the lane ought to be managed. Let me express to you my feelings about that.

First, I think it is very important that the Department of Transportation continue to experiment to try to get the maximum possible use of the lanes that the public has paid for.

Secondly, I have supported the use of these lanes by cabs whether driving with passengers or without, and regardless of the hours. Very simply stated, I think

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F. B. KLAB

they belong in those lanes as a public conveyance.

Third, we have never objected, to my knowledge, to any change in hours of operation on the grounds of the first premise that these lanes are experimental and that the State should have the right to manage them to get the maximum use.

Fourth, I have been very concerned that any change that is made, not subject the corridor to litigation. And let me explain this concern: The original lanes were placed there using roadway maintenance funds and City/ Federal Aid Urban Funds, and this expansion was accomplished by filing a negative declaration under the National Environmental Protection Act. It was possible to do so because it was believed that if anything, the HOV lane would improve congestion and air quality. Had we just tried to add an additional lane, a year to two-year process might have conceivably ensued because of the time it takes to do a National Environmental Protection Act filing with all the public hearings and alternative analysis that have to be done. If litigation should now occur because of some administrative action by the State Department of Transportation, I think we run the risk of paralyzing current efforts to improve that corridor. As you probably know, nearly $90 million has been set aside for Banfield corridor improvements, both transit and highway. It would be critical during that period not to have litigation threatening a new investment, and I am afraid that the Department of Transportation at the federal level may perceive that litigation over the current busway activities prejudice further development of that kind or any other kind in the corridor.

Let me summarize where I am. Specifically with regard to adding cabs or reducing the passenger requirement from three to two persons, so long as the State Department of Transportation is able to avoid litigation on those subjects, I have no problem with them taking these steps as they have taken other steps to change the operation of the HOV lane. Should they choose in the future to change the hours, passenger requirements, or any other operating feature that in their judgment would

improve the public benefit, they will have my support. So long as ODOT does not impair the near term decision-making process to invest Mt. Hood transfer funds to make the permanent improvements there that are necessary to serve all of the people, both East County, City of Portland, and visitors to our community, they will have my support.

Sincerely,

Neil Goldschmidt

NG:cm

cc: Doug Wright
Glenn Jackson
Bob Bothman

June 29, 1977

The Honorable Brad Morris
State Representative
H388 State Capitol
Salem, Oregon 97310

Dear Brad:

At the June 29 hearing on HB 578 concerning the HOV lanes on the Banfield Freeway in Portland, a statement was made that our agreement with DEQ allowing us to implement the HOV plan stipulated that the preferential lane could only be used by vehicles carrying three or more passengers.

During recent meetings with DEQ officials we have been advised that they would not allow opening up the lanes to cars with two or more passengers or to all cars regardless of the number of passengers unless we obtain an "indirect source permit."

If DEQ will not issue this permit and the Legislature passes this law, our only alternative may be to restripe the highway to its original two- and three-lane configuration.

Sincerely,

F. B. Klaboe
Chief of Operations

Enclosures

bc: Robert A. Burco
Robert N. Bothman
Walt Barrie
Max Klotz

HOUSE STATE GOVERNMENT OPERATIONS COMMITTEE

Hearing on Senate Bill 578

June 21, 1977

I'm Robert Bothman, Metropolitan Engineer for the Oregon Department of Transportation (ODOT), assigned the department's responsibilities in the metropolitan Portland area and the four surrounding counties.

The high-occupancy-vehicle (HOV) lanes addressed in SB 578 are in the city of Portland, and therefore, the planning, implementation, and monitoring of the project are under my supervision.

Increasing traffic volumes and congestion on the Banfield Freeway in 1973 led ODOT to take a look at ways to improve the flow of traffic on the Banfield. Then, late in 1973, the gas shortage hit and solved the problem by a drop of 10,000 vehicles a day in average weekday traffic (AWT). However, by late 1974, the volumes and congestion had increased again to 102,000 AWT. The current AWT on the Banfield Freeway is 110,000. The freeway opened in 1958 with 26,000 AWT using the facility, and is designed to carry 60,000.

In January 1975, ODOT proposed the HOV lane project to the city of Portland--the local jurisdiction--and to Tri-Met--the local transit agency, where it was received enthusiastically. Funding for the project was approved by the Columbia Region Association of Governments (CRAG). ODOT developed the project, conducted an environmental study, contracted the work, and implemented the HOV lanes in December 1975.

I have attached the last quarterly evaluation of the HOV lanes, which is:

1. The Banfield has absorbed a 9 per cent growth in vehicles in the last 15 months of the study and is moving 28 per cent more people in the rush hours.
2. The HOV lanes are carrying 20 per cent of the persons using the freeway during the rush hours in 5 per cent of the vehicles.
3. The speeds in the regular auto lanes are close to the same as prior to the project--averaging 33 m.p.h. during the p.m., compared to 30 m.p.h. in 1975; and 36 m.p.h. during the a.m. compared to 38 m.p.h. in 1975 (this is with the 9 per cent additional growth of vehicles).
4. Both ridership in the buses and carpools continues to increase. The Banfield Flyers are carrying 525 patrons compared to 300 in January 1976. The carpools have increased from 106 average to 525 (377 in the HOVL) in March 1977. These statistics were taken during the critical, peak-rush hour.
5. The violation rate is less than 1 per cent of the vehicles on the freeway
6. The accident rates are comparable to the 1975 level

ODOT is developing transitway alternatives for a major project in the Banfield corridor, using Mt. Hood Freeway transfer funds. The current HOV lane project is a short-term, low-cost, forerunner of this major project. ODOT has considered over forty different options during the last two years, and now is studying four basic alternatives for the Banfield corridor. These include the low-cost improvement alternative which uses the existing Banfield Freeway and parallel arterial streets. Under one of these alternatives, the autos are directed to the Banfield using a six-lane facility as proposed in Senate Bill 578, and transit is placed on exclusive lanes on parallel streets such as Halsey, Burnside, and Division. This alternative has substantial impacts on the local

The HOV lanes in the Banfield are consistent with the regional transportation plan which places a major emphasis on transit to absorb the growth in movement in the metropolitan Portland area. The project is also consistent with the plan by placing these transit improvements in existing major corridors, where the impact on adjacent areas is minimized.

The HOV lanes in the Banfield are consistent with the transportation control strategy developed to comply with the Clean Air Act of 1970. Preferential lanes are delineated in the transportation control strategy which is a part of the clean air plan for Portland. The plan calls for preferential treatment in all four corridors; north, south, east, and west by 1975. The Banfield corridor is the only corridor in conformance with the transportation control strategy. A project is under construction in the south corridor; an exclusive bus lane on Barbur Boulevard which will connect a park-and-ride station in West Portland with the downtown transit mall. By implementing the Banfield HOV lanes and in pursuing the Barbur bus lane, we have been able to show intent to satisfy the requirements of the Clean Air Act.

I believe the HOV lanes are consistent with the proposed national energy program which essentially calls for a well-balanced plan to reduce waste and inefficiency in oil comsumption.

The Banfield project is one of six national projects now underway that are evaluating methods to increase the use of transit and decrease the use of the single-occupant automobile.

I have attached the last quarterly evaluation of the HOV lanes, which is:

1. The Banfield has absorbed a 9 per cent growth in vehicles in the last 15 months of the study and is moving 28 per cent more people in the rush hours.
2. The HOV lanes are carrying 20 per cent of the persons using the freeway during the rush hours in 5 per cent of the vehicles.
3. The speeds in the regular auto lanes are close to the same as prior to the project--averaging 33 m.p.h. during the p.m., compared to 30 m.p.h. in 1975; and 36 m.p.h. during the a.m. compared to 38 m.p.h. in 1975 (this is with the 9 per cent additional growth of vehicles).
4. Both ridership in the buses and carpools continues to increase. The Banfield Flyers are carrying 525 patrons compared to 300 in January 1976. The carpools have increased from 106 average to 525 (377 in the HOVL) in March 1977. These statistics were taken during the critical, peak-rush hour.
5. The violation rate is less than 1 per cent of the vehicles on the freeway
6. The accident rates are comparable to the 1975 level

ODOT is developing transitway alternatives for a major project in the Banfield corridor, using Mt. Hood Freeway transfer funds. The current HOV lane project is a short-term, low-cost, forerunner of this major project. ODOT has considered over forty different options during the last two years, and now is studying four basic alternatives for the Banfield corridor. These include the low-cost improvement alternative which uses the existing Banfield Freeway and parallel arterial streets. Under one of these alternatives, the autos are directed to the Banfield using a six-lane facility as proposed in Senate Bill 578, and transit is placed on exclusive lanes on parallel streets such as Halsey, Burnside, and Division. This alternative has substantial impacts on the local

In developing the Banfield HOV lanes, the Department of Environmental Quality agreed to pursue the project on the basis of a demonstration project. That is, ODOT did not model the various impacts of the project which would have required a one to two-year process. Instead, DEQ agreed to a project with a monitoring program to evaluate the impacts. This entire approach is documented in the environmental study.

The approach in the Banfield corridor was to not allow a duplication of events that have occurred in cities such as Los Angeles, where the growth in use of the automobile was allowed to develop without a transit facility. After that growth had occurred, a transit plan was introduced by removing auto lanes. In Portland the attempt is to provide an attractive alternative to the auto during the growth in the area, so the growth, in effect, will occur with attractive auto and transit alternatives available to the public.

In brief, the HOV lanes on the Banfield were added to the existing freeway lanes by narrowing the auto lanes from 12 to 11 feet and removing shoulders. A concrete,safety-median barrier was added as were concrete safety barriers at the structure columns, turnouts provided, raised pavement markings installed, ramps reconstructed, and other safety improvements made.

To accommodate the HOV lanes, lanes were added without loss of lanes to the single-occupant auto.

The objectives of the HOV lanes are to increase the people-carrying capacity of the freeway, to fulfill the guidelines of the Clean Air Act, and to increase fuel efficiency.

streets; e.g., removal of parking, access of driveways, noise, etc. The other low-cost alternative places the transit facility in the Banfield and the autos on parallel streets.

The second alternative is HOV lanes similar to the principal of the project in the current Banfield corridor. The proposal provides for full-width lanes and shoulders and provides for six auto lanes in addition to two HOV lanes. There is an option without shoulders and with eleven-foot lanes.

The third alternative is a busway alternative which provides for a separated busway similar to that facility in the I-205 corridor, in addition to, or without improvements to, the highway itself.

The fourth alternative is a light-rail alternative which provides for the rail line in the Banfield corridor, with or without auto improvements.

SB 578 is tied to at least two or perhaps three of these alternatives now under evaluation. ODOT has spent twenty-four months with the technical expertise available in the region, and an active citizen participation program with a citizen advisory committee exceeding seventy people which meets every other week. This is in addition to the many public meetings held. We are now at the point of evaluating the social, economic, and environmental impact study; then a hearing will be held to review all the impacts to select an alternative for the Banfield Freeway corridor.

ODOT
RNB/ebg

Se

PRESENTATION TO THE SENATE TRANSPORTATION COMMITTEE

ON SENATE BILL 578

April 22, 1977

I'm Robert Bothman, Metropolitan Engineer for the Oregon Department of Transportation (ODOT), assigned to the department's responsibilities in the metropolitan Portland area and four surrounding counties.

The high-occupancy-vehicle lanes (HOVL) addressed in SB 578 are in the city of Portland, and therefore, the planning, implementation, and monitoring of the project is under my supervision.

Increasing traffic volumes and congestion on the Banfield Freeway in 1973 led me to initiate a look at ways to improve the flow of traffic on the Banfield. Then, late in 1973, the gas shortage hit and solved the problem for us with a 10,000 drop in average weekday traffic (AWT). However, by late 1974 the volumes and congestion had increased again to 102,000 AWT. The current AWT on the Banfield is 110,000. The freeway opened in 1958 with 26,000 average weekday vehicles using the facility.

In January 1975, ODOT took the HOVL proposal to the city of Portland--the local jurisdiction--and to Tri-Met--the local transit agency, where it was received enthusiastically. The project was then moved through the Columbia Region Association of Governments (CRAG) where funding was approved. With these approvals, ODOT developed the project, the environmental study, contracted the work in July 1975, and implemented in December 1975.

The HOVL in the Banfield are consistent with the regional transportation plan which places a major emphasis on transit to absorb the growth in movement in the metropolitan Portland area. The project is also consistent with the plan by placing these transit improvements in existing major corridors, where the impact on adjacent areas is minimized.

The HOVL in the Banfield are consistent with the transportation control strategy developed to comply with the national ambient air standards for motor vehicles for Portland in 1975. The standards were established by the Clean Air Act of 1970. Preferential lanes in the Banfield are clearly delineated in the transportation control strategy which is a part of the clean air plan for Portland. The plan calls for preferential treatment in all four corridors; north, south, east, and west, by 1975. The Banfield corridor is the only corridor where we have complied with the transportation control strategy. We currently have a project under construction in the south corridor; an exclusive bus lane on Barbur Boulevard, which will connect a park-and-ride station under construction in West Portland with the downtown transit mall under construction. I believe in implementing the Banfield HOVL, and in pursuing the Barbur bus lane, we have been able to show intent to satisfy the requirements of the Clean Air Act.

I believe the HOVL is consistent with the proposed national energy program which essentially calls for a well-balanced plan to reduce waste and inefficiency in oil consumption. The plan described by the President is one to draw the line and provide for a reduction in gasoline use.

The Banfield project is one of six national projects underway in 1976, which are evaluating methods to increase the use of transit and decrease the use of the single-occupant automobile.

In developing the Banfield HOVL, the Department of Environmental Quality agreed to pursue the project on the basis of a demonstration project. That is, ODOT did not fully model the various impacts of the project, which would have required a one to two-year process, but instead DEQ agreed to a project with a monitoring program evaluating the impacts of the project. This entire approach is documented in the environmental study that indicated the HOVL project did not have an immediate adverse impact upon the area. That evaluation was not made for a six-lane freeway, but for a four-lane freeway with the limited-use HOVL.

The approach in the Banfield corridor was not to allow a duplication of events that have occurred in cities such as Los Angeles, where the growth in use of the automobile was allowed to develop without a transit facility. After that growth had occurred, a transit plan was introduced by removing auto lanes. In Portland we are attempting to provide an attractive alternative to the auto during the growth in the area, so the growth, in effect, will occur with attractive auto and transit alternatives available to the public.

In brief the HOVL's on the Banfield were added to the existing freeway lanes by narrowing the auto lanes from 12 to 11 feet and removing shoulders. A concrete safety median barrier was added as were concrete safety barriers at the structure

columns, turn outs provided, raised pavement markings installed, reconstruction of the ramps accomplished and other safety improvements.

To accomodate the HOVL's, the lanes were added without loss of capacity to the single occupant auto.

The objectives of the HOVL are to increase the people-carrying capacity of the freeway to fulfill the guidlines of the Oregon Clean Air Implementation Plan, and to increase fuel efficiency by increasing the person per vehicle on the freeway.

I've attached in a packet the last quarterly evaluation of the HOVL's.

Summarizing

1. The Banfield has absorbed a 9% growth in vehicles in the last 15 months of the study and is moving 28% more people in the rush hours.

2. The HOVL's are carrying 20% of the persons using the freeway during the rush hours in 5% of the vehicles.

3. The speeds in the regular auto lanes are close to the same as prior the projects - actual averaging 33 MPH during the PM compared to 30 MPH in 1975 and 36 MPH during the AM compared to 38 MPH in 1975. This is with the 9% additional growth of vehicles.

4. Both ridership in the buses and in carpools continues to increase. The Banfield Flyers are carrying 525 patrons compared to 300 in January 1976. The carpools have increased from 106 average to 525 (377 in the HOVL) in March 1977. These statistics during the critical peak rush hou

5. The violation rate is less than 1% of the vehicles on the freeway during the peak rush hours.

6. The accident rates are at the 1975 level.

The HOVL advisory committee considered both recommendations from the Transitway Citizens Advisory Committee and the Oregon Transportation Commission yesterday at their regular monthly meeting. They unanimously disagreed to removing the HOVL's on a 90 day trial. They want time to evaluate the OTC recommendations.

We are developing transitway alternatives using Mt. Hood Freeway transfer funds as a part to the regional transportation plan. The current HOVL project is a short-term, low-cost forerunner of a major project. We have been studying for the past year, four basic alternatives for the Banfield corridor. We have looked at over forty different alternatives but have zeroed in on four as practical alternatives to be fully evaluated. These include the low-cost improvement alternative which uses the existing Banfield Freeway and parallel arterial streets. Under one of these alternatives, the autos are directed to the Banfield using a six-lane facility as proposed in Senate Bill 578, and transit is placed on exclusive lanes on parallel streets such as Halsey, Burnside, and Division. This alternative has substantial impacts on the local streets; i.e., removal of parking, access of driveways, noise, etc. The other low-cost alternative places the transit facility in the Banfield and the auto on the parallel streets.

The second alternative is an HOVL similar to the principal of the project in the current Banfield corridor. The proposal provides for full-width lanes and shoulders and provides for six auto lanes in addition to two HOVL. There is a range of with and without shoulders; with 12-foot lanes and 11-foot lanes.

The third alternative is a busway alternative which provides for a separated busway similar to that facility in the I-205 corridor in addition to, or without improvements to the highway facility.

The fourth alternative is the recently introduced light-rail alternative which provides for the rail line in the Banfield corridor in addition to the auto facility, with or without auto improvements.

SB 578 is tied to at least two or perhaps three of these alternatives under evaluation at the present time. We have spent 18 months with the technical expertise available in the region, and a very active citizen participation program with a citizen advisory committee exceeding 70 people, which meets every other week, with an audience well over 100. This, in addition to the public meetings we have held. We are now at the point of evaluating the social, economic, and environmental impacts of all these alternatives in preparation of a full environmental impact study, and a hearing in November to review all the impacts and select an alternative for the Banfield Freeway corridor.

I would like to introduce two other major players in the Banfield corridor

project; Steve McCarthy, representing the transit district, and Jim Swenson, representing the Department of Environmental Quality. I have some handouts that provide background and evaluation of the project. I will be glad to answer any questions you may have now or after Steve and Jim make their presentations.

STATE OF OREGON INTEROFFICE MEMO

TO: H. S. COULTER
State Highway Engineer

DATE: June 20, 1977

FROM: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

Presented at informal meeting 6/21/77

SUBJECT: Banfield Freeway HOV lane project

The following information is provided to report to the commission on the subject project, as requested.

No major change in the operation of the facility have occurred.

Robert Burco informed Mayor Goldschmidt, Chairman Clark, and President Drummond that the commission had instructed staff to implement the two-person carpool, allow taxis, and shorten the hours of operation to two hours in the a.m. and p.m. peak periods. The director, in addition, asked the jurisdictions to implement incentive programs to increase the number of carpool vehicles, buses, and other users of the high-occupancy-vehicle lanes.

The commission's instructions were presented to the HOV lane advisory committee. The committee reaffirmed their earlier recommendation to maintain the three-person carpool and the three-hour operation. Tri-Met was charged with the responsibility of developing an incentive program which has been completed and is attached. The incentives include establishing a park-and-ride site at Gresham, re-routing of bus lines to the HOV lanes, providing reduced parking rates for carpoolers downtown, and a promotion program. The goals of the incentives program is to increase the use of the Banfield HOV lanes during the peak hours from the current 1200 persons per hour to 2000 persons per hour. The schedule is to reach 1400 persons per hour by January 1, 1978; 1600 persons per hour by April 1, 1978; and 2000 persons per hour during 1979.

The incentive program will be implemented September 1, 1977. Implementation of an incentive program prior to that time is not possible due to the logistices of re-routing buses and summertime.

The committee recommends the commission continue the current operation of the HOV lanes, allow the incentive programs to be implemented September 1, and monitor through 1978. Contact has been made with the Federal Highway Administration and an extension of the current monitoring grant will be requested, subject to the commission's approval. The committee recommends that if the program cannot be implemented, or fails to achieve its goals, the commission then consider the option of two-person carpools or other measures to increase use of the Banfield HOV lanes--consistent with DEQ indirect-source permit procedures.

Negotiations have occurred between ODOT and DEQ staff to obtain relief from the indirect-source permit requirement. The director of DEQ has responded to the director of ODOT, formally advising that an indirect-source permit will be required in accordance with OAR 340-20-130(5). To prepare the permit will require six weeks and thirty man-days effort, assuming that the two-occupant carpool and two-hour peak periods are extended for only 120 days.

81-125-1307

If this extension of time is any longer, then the work will be substantially increased. Due to the effect of this effort by ODOT staff upon other department projects, the effort has not been initiated to develop the indirect-source permit, pending a decision by the commission to commit these resources.

The Banfield Transitway hearing, scheduled for November, has been delayed until March or later. Introduction of the LRT alternatives has caused the Federal Highway Administration and UMTA to request additional alternatives be considered. A final decision on the Banfield alternative will require at least six months after the hearing.

ebg

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE
3700 S.E. 92ND AVENUE
PORTLAND, OREGON 97266
JUNE 15, 1977

FILE:

FROM: JERRY C. STREET
RESIDENT ENGINEER

SUBJECT: BANFIELD HOV LANE PROJECT

TO: MR. ROBERT BOTHMAN
ASS'T STATE HWY ENG'R

Attached find a copy of the Tri-Met Transit District Letter outlinning the types of carpool and bus rider incentive programs to be implemented in September of this year regarding the subject project. Included in the Letter is a time schedule of activities needed to be pursued to insure the implementation of these incentives.

I. INTRODUCTION

A brief description of the incentives follows:

A. Tri-Met will establish the Quad-Cinema Theatre in Gresham as a new Park and Ride Lot. One of the two existing Banfield Flyer bus lines will begin servicing this new lot. Over 300 parking spaces will be available for Park and Ride use. The latest survey of Banfield Flyer bus users showed that people coming from the furtherest distance from CBD represented the largest percentage of users. This new station will be located 12 miles from the CBD near a large growing residential area. It should attract many new bus riders and a few new carpools.

B. Tri-Met will increase the utilization of the HOV Lanes by rerouting other bus lines, where practical, onto the Banfield HOV Lanes.

C. The City of Portland will provide reduced parking rates for carpoolers in the Downtown Core Area. They will allow carpools to park all day at existing City 6-hour parking meters for a set monthly fee which will be considerably less than normal parking fees. Over 500 6-hour parking spaces will be made available for this purpose. Also, a few public agencies will have their parking garages allow carpoolers to park at reduced rates. Tri-Met will help the City administrate this program.

D. A general promotion for the Banfield HOV Lanes will include advertising and a specific marketing program of these incentives to help increase the use of these lanes.

It is the committee's desire that the status of the Banfield Freeway HOV Lanes remain as is so that these new incentives can be implemented and monitored for their effectiveness to increase the utilization of the HOV Lanes. The timing of these incentives is such that it coincides with the time of year when people are returning from vacations and going back to school. Poeple

are settling back into a regular routine which makes them most receptive to a change of transportation mode. It would be of little value to implement and market these new incentives during the summer months when people are vacationing and following leisure time pursuits. It is highly unlikely they would change their mode of transportation during this time. This would also be true for any other changes which might be contemplated for improving the usage of the Banfield HOV Lanes.

II. FEDERAL GRANT APPLICATION

This incentive program can be monitored for its effectiveness by the same procedures which were used to monitor the orginal HOV Lane Project. ODOT has applied for a $50,000.00 grant from the Federal Government to monitor these incentives for nine months time duration. The Federal Government is anxious to learn if these incentives will increase the use of an existing HOV Lane facility. This monitoring effort will begin in September and give us the mechanism for determining how well these new incentives are working.

III. GOALS OF NEW INCENTIVE PROGRAM

The goal of the incentive program is to increase the utilization of the Banfield HOV Lanes during the Peak Rush Hours. This will be done be enticing the drivers of single occupant vehicles to either form carpools or to ride the buses in order to use the lanes. The HOV Lanes are currently carrying 1200 people per hour or 20 percent of the people who use the Freeway during Peak Rush Hours. The goal of this incentive program is to increase the amount of people transported in the HOV Lanes to over 2000 people per hour or 30 percent of the people who use the Freeway during Peak Rush Hours. This can be accomplished by these incentives and a steady learning process by the public of the value of the Lanes. Within this 9-month monitored time period the following goals should be met:

1. The HOV Lanes should be carrying 1400 people per hour during the Peak Rush Hours on January 1, 1978.
2. The HOV Lanes should be carrying 1600 people per hour during the Peak Rush Hour on April 1, 1978.
3. The HOV Lanes should be carrying the goal of 2000 people per hour during the Peak Rush Hour sometime during 1979.

IV. COMMITTEE RECOMMENDATIONS

Some of the factors to be considered by the Commission which adversely affect implementation of the 2-person carpool concept this July 1 are as follows:

A. The difficulties of processing an indirect source permit within the time specified by the Commission.

B. The inappropriateness of conducting a 2-person carpool demonstration project during the summer months.

C. The lack of funds available to monitor any type of project this summer but available this Fall from an additional Federal Grant.

D. That the Banfield Transitway hearings are to be postponed until next spring. This new incentive program could run through the winter and if the goals are not met-enough time would be available to experiment with 2-person carpool prior to hearings.

In the light of the above information, the Committee recommends to the Commission that a follow on demonstration new incentive project be implemented to commence on September 1, 1977 and proceed thru March 1, 1978 to be monitored by a Federal Grant. The demonstration new incentive project consists of the incentives outlined in this Letter and in Tri-Met's Letter with the objective of meeting the heretofore mentioned goals. If this program can not be implemented, or fails to achieve its goals, the Commission could then take the option to consider 2-person carpools or other measures to improve the utilization of the HOV Lanes consistant with DEQ indirect source permit procedures.

JCS:ah

ATTACHMENTS

BOTHMAN

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE

FILE: 26-1436
310

June 3, 1977
Salem, OR 97310

FROM: Gary A. Potter, Manager
Environmental Section

SUBJECT: Banfield HOV Lanes
DEQ Indirect Source Permit

O.S.H.D. - METRO
JUN 7 1977
FILE T/A

TO: Scott Coulter
State Highway Engineer

The Banfield HOVL 120 day trial indirect source permit will require approximately 30 man-days to prepare using the basic assumptions given.

Assumption 1 - The study area includes only the Banfield, Burnside, Broadway, Weidler and Sandy between 16th and 82nd Avenues.

Assumption 2 - That needed traffic support can be provided without delay.

Assumption 3 - That DEQ will permit the use of present emission factors as calculated per supplement 5. The new supplement (8), to be released eminently, if required, would add as much as two months to the permit preparation.

The following work outline is submitted for your information and consideration:

Work item 1) A completed application form.

2) A map showing the location of the site.

3) A map showing the topography of the Highway Section and points of ingress and egress.

4) A description of the proposed and prior use of the site.

5) A description of the general features of the Highway Section and associated right-of-way.

Total time for above 5 items--1 man-day.

Work item 6) The existing average and maximum daily traffic.

Explanation: The existing ADT's are available from the HOV data. The existing MDT's can be easily calculated from HOV data.

Time: ½ man-day.

... will take 5 man-days for coding data ... requiring

Work item 7) An estimate of one and eight hour maximum traffic for worst year and first and last years of non-compliance.

Explanation: This item will require estimating the proposed traffic volume changes. The one and eight hour volumes can than be factored.

Time: 1½ man-days

Work item 8) An estimate of vehicle speeds for average and maximum traffic volumes for worst year and first and last years of noncompliance.

Explanation: The speeds for items 6 and 7 can be calculated from existing and proposed data. Again, more time will be required on determining arterial speeds.

Time: 1 man-day

Work item 9) An analysis of shifts in traffic patterns, volumes or flows within ¼ mile of project.

Explanation: The analysis could be rather brief if the 120 day limitation is adhered to. During 120 day test period it is not likely that traffic patterns will change significantly.

Time: 1 man-day

Work item 10) Area-wide air quality analysis for worst year and first and last years of noncompliance.

Carbon monoxide
Photochemical oxidants
Nitrogen oxides
Lead particulate

Explanation: The analysis requires running Total Emission Computer Program (TOTLEM). Data requirements for TOTLEM include percent trucks, and Hot and Cold start percentages.

The percent trucks can be calculated, percent light duty trucks is available, percent gas and diesel trucks can be assumed. Hot start and Cold start percentages can be calculated. All this requiring ½ man-day. It will take 5 man-days for coding data

and 5 man-days for debugging and interpreting results. No work can be started on this until all traffic data is available.

Time: 10½ man-days

Work item 11) The total air quality impact (CO and lead) of maximum and average traffic volumes for worst year and first and last years of noncompliance.

Explanation: If DEQ will concur we will use AIRPOL4A to model specific receptor sites. AIRPOL4A requires certain met data as input, such as wind speed, wind direction, ambient temperature, and stability class. It would take 2 weeks to determine these parameters from the HOV met data. The unusually long time is required because not all data has been coded or run through DEQ's SAROAD format. A range of parameters could be assumed to cover all likely possibilities. A week will be required for coding and a week-and-a-half for debugging and analysis.

Time: 13 man-days

Work item 12) An analysis of the impact of the Highway Section on the development of mass transit and other modes of transportation.

Explanation: Included in item 15.

Work item 13) Alternative designs of the Highway Section i.e. size, location, which would minimize adverse environmental effects.

Explanation: Assumed not applicable to this project.

Work item 14) An estimate of the additional development which may occur as the result of the use of the Highway Section, including an air quality assessment of such development.

Explanation: Assumed not applicable to this project.

Work item 1

Explanat

Time:

cc: R

GAP:PTD

Work item 15) The compatibility of the Highway Section with an adopted comprehensive transportation plan for the area.

Explanation: Will take approximately one man-day to research and write items 12 and 15.

Time: 1 man-day.

GAP:PTD:BDM:ss

cc: R. N. Bothman
E. S. Hunter

TRI-COUNTY
METROPOLITAN
TRANSPORTATION
DISTRICT
OF OREGON

TRI-MET

PACIFIC BUILDING
520 S.W. YAMHILL STREET
PORTLAND, OREGON 97204
(503) 238-4844

ME PE PRI PR2 DE
C.S.M.D. = METRO
JUN 7 1977
FILE T/A

June 3, 1977

Mr. Robert A. Burco
Director of Transportation
Department of Transportation
State Highway Building
Salem, Oregon 97310

Dear Bob,

Tri-Met staff will present to the Banfield Technical Advisory Committee on June 9, 1977, the proposed schedule of events for implementing new incentive programs for increased utilization of the Banfield High Occupancy Vehicle Lanes (HOV).

The incentive programs are proposed in response to the request from the Oregon Transportation Commission to increase utilization of the Banfield HOV lanes. The components of the program are as follows:

- establish the Tri-Cinema Theatre in Gresham as a Park & Ride lot and reroute Banfield Flyers to serve the lot. Service would be implemented in September. Tri-Met's run cutting deadline for fall service is July 3, 1977.

- investigate rerouting Line #90--Banfield Flyer--to increase ridership. Service would start in September. Tri-Met's run cutting deadline for fall service is July 3, 1977.

- investigate increased use of HOV lanes by other Tri-Met lines traveling on or near the Banfield Freeway.

- implement the Downtown Incentive Parking Plan which provides reduced parking rates to carpoolers, cooperatively administered by Tri-Met and the City of Portland.

- develop a general promotion for the Banfield HOV lanes which will include advertising and a specific promotional event to increase transit ridership.

The time line required for Tri-Met to implement the new incentives is estimated as follows:

June 6	Continue procedures for securing Gresham Park & Ride lot for Banfield Flyer use and Line #9

June 7	Present to the Portland City Council the CARPOOL Project's 1977-1979 work program that includes Banfield HOV promotion and the Downtown Incentive parking plan.
June 9	Present proposed incentive program to the Banfield Technical Advisory Committee. Endorsement required to proceed.
June 10	Initiate development of marketing program with advertising agency.
	Continue procedures for possible Banfield Flyer schedule and route changes.
	Continue development of procedures for administration of Downtown Incentive Parking between City of Portland and Tri-Met.
July 1	Receive proposal of marketing elements from adversiting agency.
July 6	Deadline for Tri-Met computerized run cutting and schedule changes.
August 1	Receive marketing elements from advertising agency. Begin promotion of new incentives.
	Begin processing Downtown Parking carpool applications as received.
September 3	Improved Banfield HOV service begins.
	Carpool parking permits go into effect.
	Continue promotion of incentives.

Experience has proved to us that recruitment of carpoolers and transit riders for peak hour trips during the summer months is highly unlikely. Family vacations, longer days, and leisure time pursuits greatly reduce the probability of changing commuter travel habits in June, July, and August. Marketing of the new Banfield HOV incentives will be much more effective if our efforts are directed to generating new HOV users for September when people are settling back into a regular routine.

Recruitment of new transit riders will be one of the objectives of the marketing effort. A special promotion will be developed for this purpose. We

feel this effort will be much more cost effective than providing free fares to Banfield Flyer users.

It is important to note that implementation of the incentive programs is contingent upon 90/10 FAUS funds already approved by the Columbia Region Association of Governments (CRAG) for continuing Tri-Met's Portland Area Metropolitan Carpool Project through FY 78.

Two other issues may also affect implementation of the incentive programs. While the Federal Highway Administration has signed an agreement with Tri-Met following approval by CRAG of the Carpool Project, the City of Portland has recently expressed reservations about supporting the Carpool Project with the City's share of the region's FAUS funds. A recent reduction in the City of Portland's total share of FAUS funds has apparently caused this concern. The enlarged share for the rest of the region created by the City's reduction is not necessarily a readily available source, complicated by over commitment of FAUS funds.

The second concern is Senate Bill 578, recently passed by the Senate, that proposed the abolishment of the Banfield HOV lanes. If the House of Representatives passes Senate Bill 578, the opportunity for the Banfield incentive programs will be eliminated.

I am available to answer any questions that you may have about this program.

Yours very truly,

Stephen R. McCarthy
Assistant General Manager

SRM/nh

ROBERT A. STRAUB
GOVERNOR

Department of Transportation

STATE HIGHWAY BUILDING, SALEM, OREGON 97310

26-1436
120
FILE T/A

May 26, 1977

The Honorable Neil Goldschmidt
Mayor, City of Portland
City Hall
Portland, OR 97204

(Same letter sent to:
Donald Clark, Multnomah County
Gerard Drummond, Tri Met)

Dear Neil:

In April, the Oregon Transportation Commission recommended operational changes for the Banfield High Occupancy Vehicle Lanes to increase the utilization of that facility. The operational changes are intended to provide additional incentives for utilization of these high-occupancy vehicle lanes. These include:

1. Open the high-occupancy vehicle lanes to two-person carpools;

2. Allow taxis to use the high-occupancy vehicle lanes;

3. Shorten the time of operation to two hours in the a.m. and p.m. peak periods.

At the May Commission meeting, the Commission did consider recommendations of the ODOT staff and the project advisory committee, and did instruct the staff to implement the Commission's recommendations to provide additional incentives for utilization of the high-occupancy vehicle lanes at the end of the present experimental period, July 1, to extend for a period of 120 days.

The Commission further asked the local jurisdictions, the City of Portland, Tri-Met, and Multnomah County to implement incentive programs to increase the number of carpool vehicles, buses, and other users of the high-occupancy vehicle lanes. Incentive programs recommended by the advisory committee and the Commission are:

1. Immediate implementation of the Downtown Parking Program;

2. Immediate implementation of Gresham park-and-ride stations, with service to the Banfield HOV lanes;

3. Immediate rerouting of East County buses to maximize the use of the Banfield High-Occupancy Vehicle Lanes; and

4. Consideration of a free-fare demonstration period as an incentive program to increase the transit ridership from East County using the Banfield High-Occupancy Vehicle Lanes.

This letter is to ask for immediate implementation of incentive programs to increase the utilization of the Banfield High-Occupancy Vehicle Lanes.

Sincerely,

Robert A. Burco
Director of Transportation

RAB:jv

cc: Oregon Transportation Commission

bc: Bill Young
Department of Environmental Quality

Mike Burton
Intergovernmental Relations Division
Executive Department

Len Bergstein
Governor's Office

bcc: H. S. Coulter
F. B. Klaboe
Bob Bothman
George Bell
Alan Lightner

190

ROBERT W. STRAUB
GOVERNOR

Department of Environmental Quality

1234 S.W. MORRISON STREET, PORTLAND, OREGON 97205 PHONE (503) 229- 6086

May 23, 1977

FE FRI PR2 DE
O.E.Q. - METRO
MAY 25 1977
FILE T/A

Mr. Robert Burco
Oregon Department of Transportation
Transportation Building
Salem, Oregon 97310

Dear Bob:

As you know, our Department has cooperated with ODOT in the Banfield Demonstration Project for over two years. Now with the Demonstration Project drawing to a close, we would like to continue to cooperate with ODOT in determining the future of the Banfield Freeway.

The recent action of the Transportation Commission directing the use of two-person carpools on the Banfield HOV Lanes after July 1, 1977 will require that ODOT obtain an Indirect Source Permit from DEQ. To expedite agreement on the HOV issue, we will process your permit application as quickly as possible. Also, we would be happy to meet with you or your staff to discuss and hopefully resolve any conflicts between our objectives for improved air quality and your objectives in the Banfield corridor. Any decision to approve, approve with conditions, or deny your application will be based on our established criteria (OAR 340-20-130(5)) and on the net impact to Portland's air quality.

Any questions concerning the procedures or requirements of our Indirect Source review program should be addressed to Mr. Anthony George, 229-6036.

Sincerely,

Original Signed By
William H. Young

MAY 24 1977

WILLIAM H. YOUNG
Director

AJG:mh
cc: Robert Bothman, ODOT Metro

COPY

DEQ-2

THE CITY OF
PORTLAND
OREGON

OFFICE OF
PLANNING AND DEVELOPMENT
GARY E. STOUT
ADMINISTRATOR

BUREAU OF
PLANNING
ERNEST R. BONNER
DIRECTOR

424 S.W. MAIN STREET
PORTLAND, OR. 97204

PLANNING
503 248-4253

ZONING
503 248-4250

May 16, 1977

BE FE PR1 PR2 DE
O.S.H.D. = METRO
MAY 18 1977
OE FILE J[A

Robert Bothman, Assistant State
Highway Engineer
Oregon Department of Transportation
Metropolitan Section
5821 N. E. Glisan
Portland, Oregon 97213

Dear Mr. Bothman:

I am writing in regard to the Banfield HOV Lane demonstration project, and have chosen to put my remarks in writing for purposes of clarity as well as due to the fact that it is quite likely that the City Planning Bureau staff will be unable to attend the next session (May 19) of the Banfield HOV Technical Advisory Committee.

Recently, I have been quite interested in the series of discussions which have taken place in the Technical Committee regarding possible modifications to the operation of the HOV Lane. Based on the reports which I have received from the Planning Bureau representative, it is clear that the Committee is interested in maintaining the operations of the facility in line with the demand recorded during past operations. This seems to be an entirely proper approach. Additionally, it is my understanding that various members of the Committee, notably Tri-Met, are interested in pursuing new ways in which even greater utility can be obtained from the project, as a means of further demonstration.

I agree quite strongly with this viewpoint, especially in light of the scheduled November hearing on the Banfield transitway and the numerous procedural and legal obstacles to terminating the current project at this time or in the near future. I have heard mentioned a number of possible methods by which further demonstration - seeking even greater use of the Lanes - could be accomplished, including the addition of another park-and-ride lot in the Gresham area, an examination of additional routing possibilities, and the active implementation of car pool pricing programs in the Portland downtown. The Planning Bureau, as I have indicated to

both Tri-Met Car Pool staff and Don Bergstrom, City Traffic Engineer, is willing to assist in any manner appropriate in the implementation of the car pool incentives program in the downtown. I hope that the HOV Lane committee, via Tri-Met, moves quickly in initiating planning on this and other programs.

I also hope that other ideas aimed at making the facility work better are given careful consideration by the Technical Committee. I would at this time like to offer one such suggestion, which, seemingly, could be considered in concert with the Tri-Met proposal of another park-and-ride lot.

Experience in other cities has shown that many potential transit riders do not use the transit system for reasons which often disappear or greatly diminish when they actually begin to ride. The problem, of course, is attracting their ridership in the first place, and this often requires some incentive. The federal government is aware of this dilemma and (Urban Mass Transportation Administration) is currently in the process of establishing demonstrations around the country which will test various ways of attracting and retaining new transit riders. One such method is through reduced fare or free fare. The demonstration approach is rather straight-forward. The transit fare is reduced or made free for a set period of time, after which it is hoped that some increase in ridership will be attained because people found the system to be attractive during the period it was free and continued, subsequently, as paying riders.

It would seem that this would be perfectly logical demonstration for the Banfield HOV Lanes, and one which Tri-Met could undertake with minimal administrative problems and actually little loss of revenue (given the current level of ridership on the Banfield Flyers). With adequate advance notice and good marketing, all Banfield Flyer rides could be made free during an established period of time, e.g., three months, after which time the fare would revert to the former rate. While such a demonstration could be initiated with the current operations, perhaps it might also be considered in conjunction with a new park-and-ride lot, if that proves to be a reality in the near future.

I am sure there are any number of other ideas which might be considered in order to improve the use of the HOV Lane. I hope that all such ideas are given thorough and positive consideration by the Technical Committee. The aforementioned free transit concept is the one which has occurred to me, and has benefits relating not only to the increased use of the HOV Lane, but also to attracting increased transit ridership and helping establish the park-and-ride lots in East County.

-HISTORIC FILE-

If you believe it is a reasonable concept to discuss, then I request that you bring it to the attention of the Technical Committee so that they, in turn, might request that Tri-Met give it consideration.

Thank you, and if I can be of any assistance in this matter, please contact me.

Sincerely,

Douglas Wright,
Chief Planner

DW:hm

cc: Mayor Neil Goldschmidt

#8259

DIRECTOR'S FILE

TRI-COUNTY
METROPOLITAN
TRANSPORTATION
DISTRICT
OF OREGON

TRI-MET

PACIFIC BUILDING
520 S.W. YAMHILL STREET
PORTLAND, OREGON 97204
(503) 238-4844

copys - Dlabar 6/6 jr

June 3, 1977

Mr. Robert A. Burco
Director of Transportation
Department of Transportation
State Highway Building
Salem, Oregon 97310

Dear Bob,

Tri-Met staff will present to the Banfield Technical Advisory Committee on June 9, 1977, the proposed schedule of events for implementing new incentive programs for increased utilization of the Banfield High Occupancy Vehicle Lanes (HOV).

The incentive programs are proposed in response to the request from the Oregon Transportation Commission to increase utilization of the Banfield HOV lanes. The components of the program are as follows:

- establish the Tri-Cinema Theatre in Gresham as a Park & Ride lot and reroute Banfield Flyers to serve the lot. Service would be implemented in September. Tri-Met's run cutting deadline for fall service is July 3, 1977.

- investigate rerouting Line #90--Banfield Flyer--to increase ridership. Service would start in September. Tri-Met's run cutting deadline for fall service is July 3, 1977.

- investigate increased use of HOV lanes by other Tri-Met lines traveling on or near the Banfield Freeway.

- implement the Downtown Incentive Parking Plan which provides reduced parking rates to carpoolers, cooperatively administered by Tri-Met and the City of Portland.

- develop a general promotion for the Banfield HOV lanes which will include advertising and a specific promotional event to increase transit ridership.

The time line required for Tri-Met to implement the new incentives is estimated as follows:

June 6	Continue procedures for securing Gresham Park & Ride lot for Banfield Flyer use and Line #9

June 7	Present to the Portland City Council the CARPOOL Project's 1977-1979 work program that includes Banfield HOV promotion and the Downtown Incentive parking plan.
June 9	Present proposed incentive program to the Banfield Technical Advisory Committee. Endorsement required to proceed.
June 10	Initiate development of marketing program with advertising agency.
	Continue procedures for possible Banfield Flyer schedule and route changes.
	Continue development of procedures for administration of Downtown Incentive Parking between City of Portland and Tri-Met.
July 1	Receive proposal of marketing elements from adversiting agency.
July 6	Deadline for Tri-Met computerized run cutting and schedule changes.
August 1	Receive marketing elements from advertising agency. Begin promotion of new incentives.
	Begin processing Downtown Parking carpool applications as received.
September 3	Improved Banfield HOV service begins.
	Carpool parking permits go into effect.
	Continue promotion of incentives.

Experience has proved to us that recruitment of carpoolers and transit riders for peak hour trips during the summer months is highly unlikely. Family vacations, longer days, and leisure time pursuits greatly reduce the probability of changing commuter travel habits in June, July, and August. Marketing of the new Banfield HOV incentives will be much more effective if our efforts are directed to generating new HOV users for September when people are settling back into a regular vacation.

Recruitment of new transit riders will be one of the objectives of the marketing effort. A special promotion will be developed for this purpose. We

feel this effort will be much more cost effective than providing free fares to Banfield Flyer users.

It is important to note that implementation of the incentive programs is contingent upon 90/10 FAUS funds already approved by the Columbia Region Association of Governments (CRAG) for continuing Tri-Met's Portland Area Metropolitan Carpool Project through FY 78.

Two other issues may also affect implementation of the incentive programs. While the Federal Highway Administration has signed an agreement with Tri-Met following approval by CRAG of the Carpool Project, the City of Portland has recently expressed reservations about supporting the Carpool Project with the City's share of the region's FAUS funds. A recent reduction in the City of Portland's total share of FAUS funds has apparently caused this concern. The enlarged share for the rest of the region created by the City's reduction is not necessarily a readily available source, complicated by over commitment of FAUS funds.

The second concern is Senate Bill 578, recently passed by the Senate, that proposed the abolishment of the Banfield HOV lanes. If the House of Representatives passes Senate Bill 578, the opportunity for the Banfield incentive programs will be eliminated.

I am available to answer any questions that you may have about this program.

Yours very truly,

Stephen R. McCarthy
Assistant General Manager

SRM/nh

RECEIVED
JUN 6 1977
OFFICE
DIRECTOR of TRANSPORTATION

#9259

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

June 3, 1977
Salem, OR 97310

FILE:

NOTED
H. S. COULTER

FROM: Gary A. Potter, Manager
Environmental Section

SUBJECT: Banfield HOV Lanes
DEQ Indirect Source Permit

TO: Scott Coulter
State Highway Engineer

The Banfield HOVL 120 day trial indirect source permit will require approximately 30 man-days to prepare using the basic assumptions given.

Assumption 1 - The study area includes only the Banfield, Burnside, Broadway, Weidler and Sandy between 16th and 82nd Avenues.

Assumption 2 - That needed traffic support can be provided without delay.

Assumption 3 - That DEQ will permit the use of present emission factors as calculated per supplement 5. The new supplement (8), to be released eminently, if required, would add as much as two months to the permit preparation.

RECEIVED
STATE HWY ENGR
JUN 6 '77
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

The following work outline is submitted for your information and consideration:

Work item 1) A completed application form.

2) A map showing the location of the site.

3) A map showing the topography of the Highway Section and points of ingress and egress.

4) A description of the proposed and prior use of the site.

5) A description of the general features of the Highway Section and associated right-of-way.

Total time for above 5 items--1 man-day.

Work item 6) The existing average and maximum daily traffic.

Explanation: The existing ADT's are available from the HOV data. The existing MDT's can be easily calculated from HOV data.

Time: ½ man-day.

Work item 7) An estimate of one and eight hour maximum traffic for worst year and first and last years of non-compliance.

Explanation: This item will require estimating the proposed traffic volume changes. The one and eight hour volumes can than be factored.

Time: 1½ man-days

Work item 8) An estimate of vehicle speeds for average and maximum traffic volumes for worst year and first and last years of noncompliance.

Explanation: The speeds for items 6 and 7 can be calculated from existing and proposed data. Again, more time will be required on determining arterial speeds.

Time: 1 man-day

Work item 9) An analysis of shifts in traffic patterns, volumes or flows within ¼ mile of project.

Explanation: The analysis could be rather brief if the 120 day limitation is adhered to. During 120 day test period it is not likely that traffic patterns will change significantly.

Time: 1 man-day

Work item 10) Area-wide air quality analysis for worst year and first and last years of noncompliance.

Carbon monoxide
Photochemical oxidants
Nitrogen oxides
Lead particulate

Explanation: The analysis requires running Total Emission Computer Program (TOTLEM). Data requirements for TOTLEM include percent trucks, and Hot and Cold start percentages.

The percent trucks can be calculated, percent light duty trucks is available, percent gas and diesel trucks can be assumed. Hot start and Cold start percentages can be calculated. All this requiring ½ man-day. It will take 5 man-days for coding data

and 5 man-days for debugging and interpreting results. No work can be started on this until all traffic data is available.

Time: 10½ man-days

Work item 11) The total air quality impact (CO and lead) of maximum and average traffic volumes for worst year and first and last years of noncompliance.

Explanation: If DEQ will concur we will use AIRPOL4A to model specific receptor sites. AIRPOL4A requires certain met data as input, such as wind speed, wind direction, ambient temperature, and stability class. It would take 2 weeks to determine these parameters from the HOV met data. The unusually long time is required because not all data has been coded or run through DEQ's SAROAD format. A range of parameters could be assumed to cover all likely possibilities. A week will be required for coding and a week-and-a-half for debugging and analysis.

Time: 13 man-days

Work item 12) An analysis of the impact of the Highway Section on the development of mass transit and other modes of transportation.

Explanation: Included in item 15.

Work item 13) Alternative designs of the Highway Section i.e. size, location, which would minimize adverse environmental effects.

Explanation: Assumed not applicable to this project.

Work item 14) An estimate of the additional development which may occur as the result of the use of the Highway Section, including an air quality assessment of such development.

Explanation: Assumed not applicable to this project.

Work item 15) The compatibility of the Highway Section with an adopted comprehensive transportation plan for the area.

Explanation: Will take approximately one man-day to research and write items 12 and 15.

Time: 1 man-day.

GAP:PTD:BDM:ss

cc: R. N. Bothman
E. S. Hunter

ROBERT W. STRAUB
GOVERNOR

Department of Environmental Quality

1234 S.W. MORRISON STREET, PORTLAND. OREGON 97205 Telephone (503) 229-6086

May 23, 1977

Mr. Robert Burco
Oregon Department of Transportation
Transportation Building
Salem, Oregon 97310

Dear Bob:

As you know, our Department has cooperated with ODOT in the Banfield Demonstration Project for over two years. Now with the Demonstration Project drawing to a close, we would like to continue to cooperate with ODOT in determining the future of the Banfield Freeway.

The recent action of the Transportation Commission directing the use of two-person carpools on the Banfield HOV Lanes after July 1, 1977 will require that ODOT obtain an Indirect Source Permit from DEQ. To expedite agreement on the HOV issue, we will process your permit application as quickly as possible. Also, we would be happy to meet with you or your staff to discuss and hopefully resolve any conflicts between our objectives for improved air quality and your objectives in the Banfield corridor. Any decision to approve, approve with conditions, or deny your application will be based on our established criteria (OAR 340-20-130(5)) and on the net impact to Portland's air quality.

Any questions concerning the procedures or requirements of our Indirect Source review program should be addressed to Mr. Anthony George, 229-6086.

Sincerely,

Bill

WILLIAM H. YOUNG
Director

AJG:mh
cc: Robert Bothman, ODOT Metro

Recycled Materials

DEQ-1

REC
OFFICE
DIRECTOR of TRANSPORTATION

8259 NE Union Ave-NE 82nd Ave Sec 197
Columbia River Hwy. in Portland
(Grad.,pave,bar,sign & ill.) #6

RR 821
6-24-76

#2257

DIRECTOR'S FILE
Banfield Bu

Oregon Department of Transportation
Metropolitan Section

May, 1977

Banfield High-Occupancy Vehicle Lanes

Report to Oregon Transportation Commission

On April 19, the Oregon Transportation Commission instructed that revisions be made to the HOVL project on the Banfield Freeway in Portland or provide evidence as to why the request should not be implemented. The instructions were to open the HOVL's to two-person carpools, shorten the restricted-hour usage to two-hour periods, and allow taxis to use the HOVL's during the restricted peak hours.

The Banfield HOVL's were implemented with the joint concurrence of the City of Portland--the local jurisdiction--and Tri-Met--the local transit agency. The funding for the project was provided by transfer of urban system funds assigned to CRAG.

The Banfield project is one of six national projects underway which are evaluating methods to increase the use of transit, and decrease the use of single-occupant automobiles. A federal grant to provide monitoring for the HOV lane demonstration project has allowed the Department to collect statistics for analization.

The HOVL's are consistent with the regional transportation plan which places a major emphasis on transit and increased utilization of existing facilities to absorb the growth in movement in the metropolitan Portland area.

The HOVL's in the Banfield are consistent with the transportation control strategy developed to comply with the national ambient air standards for motor vehicles for Portland in 1975. Preferential lanes in the Banfield are delineated in the transportation control strategy which is a part of the clean air plan for Portland. The plan calls for preferential treatment in all four corridors; north, south, east, and west, by 1975. The Banfield corridor is the only corridor where we have complied with the transportation control strategy. We currently have a project under construction in the south corridor; an exclusive bus lane on Barbur Boulevard, which will connect a park-and-ride station under construction in West Portland with the downtown transit mall under construction.

In developing the Banfield HOVL project, the Department of Environmental Quality (DEQ) agreed to approve the project from environmental aspects on the basis of a demonstration project. ODOT did not address the impacts of the project which would have required an environmental impact statement, resulting in a one to two-year delay. DEQ agreed to expediting the project with a monitoring program evaluating the impacts of the project as it progressed. This entire approach is documented in the environmental study which indicated the HOVL project did not have an immediate adverse impact upon the area. That evaluation was made for HOVL's, based on three-occupant carpools, and a full-time operation of the HOVL's. An indirect source permit required on all highway construction projects on freeways of this size was not obtained pending the outcome of the demonstration project.

The approach in the Banfield corridor was to not allow a duplication of events that have occurred in Los Angeles, where the growth in the use of the automobile was allowed to develop without a transit facility. After that growth had

ed, a transit plan was introduced by removing auto lanes. In Portland ttempt is to provide an attractive alternative to the auto during the th in the area, so the growth will occur with both auto and transit alter- ives available to the public.

he objectives of the Banfield HOVL's are to:

1. Increase the people-carrying capacity of the freeway

2. Fulfill the guidelines of the Oregon Clean Air Implementation Plan

3. Increase fuel efficiency by increasing the person-per-vehicle ratio

A brief summary of the statistics analized on the Banfield HOVL's to date:

1. The Banfield Freeway has absorbed a 9 per cent growth in vehicles in the past 15 months and is moving 28 per cent more people during the peak hour. This represents an additional 3400 persons using the Banfield Freeway during the peak hour. Of these persons, 2600 additional persons are using the HOVL. The remaining growth, 800 persons, has occurred in the two regular auto lanes.

2. The HOVL's are carrying 20 per cent of the persons using the freeway during the rush hour, in 5 per cent of the vehicles.

3. The speeds in the regular auto lanes are close to the same as before the project. Speeds are averaging 33 m.p.h. during the p.m. compared to 30 m.p.h. in 1975, and 36 m.p.h. during the a.m. compared to 38 m.p.h. in 1975. These speeds have been maintained with the 9 per cent growth in vehicles during the peak hour.

4. Ridership in both buses and carpools continues to increase. The "Banfield Flyers" are carrying 525 patrons compared to 300 in January 1976. Carpools have increased from 106 average to 525 (377 in the HOVL's) in March 1977.

5. The violation rate is less than 1 per cent of the vehicles on the freeway.

6. Accident rates are at the 1975 level.

A comparison of the average speeds to the rate of average number of vehicles per lane per hour on the Banfield Freeway provides an indication of the congestion during the a.m. and the p.m. peak hours. The freeway is signed for 55 m.p.h. The recorded average speed during the off-peak periods is 55 m.p.h. The attached graphics show that as the traffic volumes pick up during the peak hour periods, the speeds are reduced. As shown on the attached chart, 1200 vehicles per lane per hour is considered a satisfactory level of service. The plot verifies this design criteria indicating that during the three-hour peak when the vehicles exceed 1200, the speeds are reduced below the designated 55 m.p.h. The vehicles in the HOVL's are operating at an average 10 m.p.h. faster than the vehicles in the regular travel lanes during the peak hour. These speeds point out the three-hour period during which there is an incentive provided to use the HOVL's.

The ODOT traffic section has provided an analysis of the proposal to provide two-person carpools. The conclusions reached indicate the two-person carpool concept would increase traffic volumes on the freeway, would improve the speeds and level of service on the freeway, would slightly improve the operation of parallel arterials by reducing the number of vehicles on those streets, and would not provide a significant impact upon transit ridership.

During the p.m. critical peak hour, 26 per cent of the vehicles are carrying two occupants, or more. The effect of using the two-occupant carpool is similar to opening the entire freeway to all vehicles, with the potential of carrying 26 per cent of the vehicles in the HOVL's, and 37 per cent of the vehicles in each of the adjacent lanes. The effect would be to increase the carrying capacity of the freeway for single-occupancy vehicles by 20 per cent. Today, 20 per cent of the vehicles carry two occupants.

A recent survey taken by ODOT of users of the HOVL's indicates cost savings was the most mentioned incentive contributing to the formation of carpools. Convenience was mentioned as a strong second. Users of the HOVL's indicated traffic flow improvements and carpools were the best way to improve air quality. Most carpool users of the HOVL's commented that the lanes should be opened to two-person carpools.

The non-users of the HOVL's indicated that inconvenience was the major reason for not carpooling. A need for the car at work was the second most often given reason for not carpooling. Both traffic improvements and mass transit were indicated as the major activity needed to improve air quality. Most non-users of the HOVL's commented that the lanes should be opened to all vehicles at all times, or at least to two-person carpools. They felt the lanes were not being used enough during the peak hours to warrant the preferrential lanes.

The survey received a high rate of response from both users and non-users, indicating high interest in the project. This is further demonstrated by the number of people who responded by written comment about the project. Several of these comments consisted of two or three page letters. Most people said they wanted the HOV lanes opened to all traffic at all times.

The Banfield HOVL Technical Advisory Committee, consisting of the representatives from the city of Portland, Multnomah County, Tri-Met, DEQ, the Oregon State Police, business and neighborhood representatives, and ODOT formed a consensus that the changes requested by the Commission should not be implemented at this time. It recommended the Commission allow taxis with a fare to use the HOVL. It was felt that when taxis are carrying passengers, they are providing an auxilliary transit service which supports buses. In summary, the committee's recommendations were based upon the failure of proposals to provide additional incentive for transit and carpooling, encourage additional carpools, encourage additional use of the HOVL, encourage additional energy conservation, improve safety, ease enforcement, and meet the objectives of the HOVL demonstration project. The advisory committee strongly urged a program to implement additional incentives to use carpools and buses, including implementation of the downtown parking incentive program which provides parking for carpools, initiation of a park-and-ride station in Gresham connected by "Flyers" to the HOV lane, and improvement of routing East County buses to make better use of the HOVL's.

The objectives of the project are best served by retaining three-person carpools and the three-hour-peak restriction. The use of the HOVL's by taxis is nominal and would have no affect upon the operation of the facility. The project has been carried out under a cooperative effort with the participating agencies, and that cooperative effort should be maintained by the Commission by continuing the existing operation. The only revision advised at this time is to allow <u>taxis with a fare</u> to use the HOVL's during the peak hours.

The Commission is advised to strongly encourage the city of Portland, Tri-Met, and the county to expedite implementation of additional incentives to attract transit and carpool use of the HOVL's.

ebg

attachments

ODOT
RNB/ebg
5/12/77

RATE OF AVERAGE NUMBER OF VEHICLES PER HOUR PER LANE

400
800
1200
1600
2000
2400
2800

3:00 P.M.
3:30
5:00
6:30 P.M.

25
30
35
40
45
50
55

AVERAGE SPEEDS - M.P.H.

COAT
CHAN
EL
AVE

COMPARISON OF THE AVERAGE
OF AVERAGE NUMBER OF VEHIC
E.B. ON THE BANFIELD FREEWAY
EXCLUDING HO
APRIL, 19

E.B.
HOV LANE RE

RATE OF AVERAGE NUMBER OF VEHICLES PER HOUR PER LANE

2800
2400
2000
1600
1200
800
400

Average Speed
Rate of Average Number of Vehic

3:00 P.M.
3:30
4:00
4:30
5:00

TIME OF

VERAGE SPEEDS TO THE RATE
OF VEHICLES PER HOUR PER LANE
REEWAY, 47th. Ave. to 60th. Ave.
NG HOV LANE
IL, 1977

E.B.
LANE RESTRICTED

55
50
45
40
35
30
25
SPEEDS - M.P.H.
AVERAGE

mber of Vehicles

5:00
5:30
6:00
6:30 P.M.
TIME OF DAY

COMPARISON OF THE AVERAG
OF AVERAGE NUMBER OF VEH
W.B. ON THE BANFIELD FREEWA
EXCLUDING HO
APRIL , 1
W.B
HOV LANE R

RATE OF AVERAGE NUMBER OF VEHICLES PER HOUR PER LANE

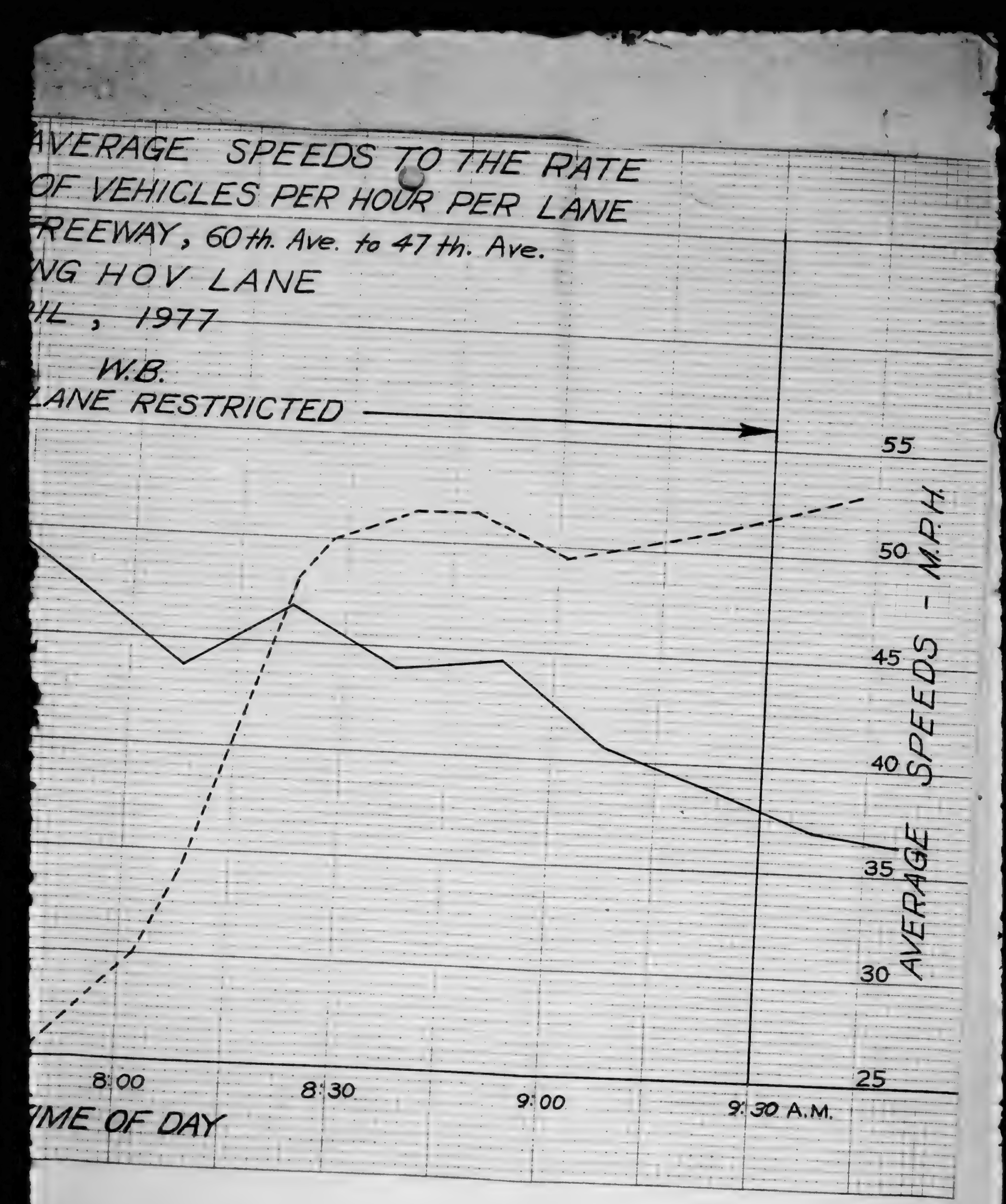
2800
2400
2000
1600
1200
800
400

6:00 A.M.
6:30
7:00
7:30
8:0

TIME O

AVERAGE SPEEDS TO THE RATE
OF VEHICLES PER HOUR PER LANE
REEWAY, 60th. Ave. to 47th. Ave.
NG HOV LANE
IL, 1977

W.B.
LANE RESTRICTED



8259

ROBERT W. STRAUB
GOVERNOR

Department of Transportation

STATE HIGHWAY BUILDING, SALEM, OREGON 97310

May 26, 1977

(Same letter sent to:
Donald Clark, Multnomah County
Gerard Drummond, Tri Met)

The Honorable Neil Goldschmidt
Mayor, City of Portland
City Hall
Portland, OR 97204

Dear Neil:

In April, the Oregon Transportation Commission recommended operational changes for the Banfield High Occupancy Vehicle Lanes to increase the utilization of that facility. The operational changes are intended to provide additional incentives for utilization of these high-occupancy vehicle lanes. These include:

1. Open the high-occupancy vehicle lanes to two-person carpools;

2. Allow taxis to use the high-occupancy vehicle lanes;

3. Shorten the time of operation to two hours in the a.m. and p.m. peak periods.

At the May Commission meeting, the Commission did consider recommendations of the ODOT staff and the project advisory committee, and did instruct the staff to implement the Commission's recommendations to provide additional incentives for utilization of the high-occupancy vehicle lanes at the end of the present experimental period, July 1, to extend for a period of 120 days.

The Commission further asked the local jurisdictions, the City of Portland, Tri-Met, and Multnomah County to implement incentive programs to increase the number of carpool vehicles, buses, and other users of the high-occupancy vehicle lanes. Incentive programs recommended by the advisory committee and the Commission are:

1. Immediate implementation of the Downtown Parking Program;

NOTED
F. B. KLABOE

RECEIVED DOT OPERATIONS						
MAY 26 '77						
REFER TO						
FOR						
Info	Invest	R/D	D/R	Sign	Act	File

2. Immediate implementation of Gresham park-and-ride stations, with service to the Banfield HOV lanes;

3. Immediate rerouting of East County buses to maximize the use of the Banfield High-Occupancy Vehicle Lanes; and

4. Consideration of a free-fare demonstration period as an incentive program to increase the transit ridership from East County using the Banfield High-Occupancy Vehicle Lanes.

This letter is to ask for immediate implementation of incentive programs to increase the utilization of the Banfield High-Occupancy Vehicle Lanes.

Sincerely,

Robert A. Burco
Director of Transportation

RAB:jv

cc: Oregon Transportation Commission

bc: Bill Young
Department of Environmental Quality

Mike Burton
Intergovernmental Relations Division
Executive Department

Len Bergstein
Governor's Office

bcc: H. S. Coulter
F. B. Klaboe
Bob Bothman
George Bell
Alan Lightner

STATE OF OREGON

INTEROFFICE MEMO

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DOT OPERATIONS
MAY 25 '77
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TO: F. B. KLABOE
Chief of Operations

DATE: May 23, 1977

FROM: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: Banfield HOVL TAC meeting
May 19, 1977

The advisory committee for the Banfield HOVL considered the actions of the Oregon Transportation Commission of May 17.

A lengthy discussion on initiation of the incentives outlined in my report to the commission, and recommended by the committee, resulted in an evaluation that the earliest implementation date for these incentives would be September 1. This is because of a series of administrative procedures, permits, driver union requirements, etc., which precludes implementation of incentive programs prior to that date. Each local jurisdiction will set about to document and take steps to fully commit to implementation by July 1.

Tony George expressed the position of DEQ (later substantiated with administrative concurrence on May 20). The position of DEQ is that an indirect source permit is required in order to implement the recommendations of the commission. Mr. George proposed some type of compromise such as extending the HOVL in the eastbound direction on the Banfield back to 16th Avenue; this would require removal of one of the existing auto lanes, with a net increase of traffic in the existing auto lanes which would develop a block at 16th Avenue (the block which now occurs at 39th Avenue) and cause a "parking lot" to occur on I-5, as opposed to the Banfield. I advised him that any proposal that would increase congestion on the Banfield would not be acceptable. This further substantiated the requirement of an indirect source permit.

Each of the participating jurisdictions on the committee will document their activities to fix the incentives programs proposed; this work will be assembled at the next meeting scheduled for June 9. After that meeting, the staff will consolidate a report to the commission.

Further discussions with Gary Potter have led to Gary's preparing a short report indicating the requirements upon his staff to develop an indirect source permit.

Scott Coulter indicated we should not initiate an indirect source permit. The work being done by Gary Potter should provide us with some additional analysis before we commit the resources on what may be an impossible task.

Walt Barrie has been in contact with Mr. Haskins, Assistant Attorney General, representing DEQ. The result of that conversation passed the responsibility to Tony George and me. Mr. Barrie will pursue the indirect source permit again with DEQ and the Attorney General.

ebg

NOTED
F. B. KLABOE

cc: H. S. Coulter
G. A. Potter
Walt Barrie

81-125-1387

-77 JAY

Oregon State Highway Division

TRANSPORTATION BUILDING, SALEM, OREGON 97310

ROBERT W. STRAUB
GOVERNOR

DATE: May 17, 1977

TO: Oregon Transportation Commission

FROM:
H. S. Coulter
State Highway Engineer

SUBJECT: Banfield Freeway HOVL Project

Following the last Commission meeting, I met twice with the Technical Advisory Committee representing the various groups involved in reviewing the Banfield HOV Lane Demonstration Project. A meeting was also held with representatives from the Oregon Division office of the FHWA at which the Demonstration Project as well as HOV lanes and their utilization nationwide were discussed.

Copies of a staff report prepared by R. N. Bothman, a plot of peak-hour speeds and volumes and a report from the Technical Advisory Committee have been furnished each of you. A preliminary traffic analysis was also prepared attempting to reflect alternate volumes that might be experienced during peak-hours if the definition of a carpool were changed to include two occupants vs. three.

Following participation in the meetings mentioned above and review of the various reports and responses, I support the convictions and recommendations expressed in Mr. Bothman's May 12 memo to me. I believe that additional utilization of the HOV lane can be realized with expeditious implementation of the incentive programs suggested. If these programs are not undertaken in the near future it might be appropriate to reconsider the potential benefits of two-person carpools.

HSC:ia

bc R. A. Burco
C. W. Head
F. B. Klaboe
E. S. Hunter
R. L. Schroeder
R. N. Bothman
George Bell
E. L. Hardt
J. H. Versteeg
Frank Terpin
Max Klotz
L. E. George

8259

VERBATIM TRANSCRIPT OF COULTER'S PRESENTATION TO COMMISSION ON 5-17-77 RE HOV LANES - BANFIELD FREEWAY

AGENDA ITEM 4b-3

COULTER: At the last Commission meeting, you asked me to get with the people involved with regard to the operation of the Banfield Freeway HOV lanes. Following that Commission meeting I did meet twice with the Technical Advisory Committee that represents the various groups that are involved in reviewing that demonstration project. A meeting was also held with representatives of the Oregon Division office of the Federal Highway Administration at which not only the demonstration project was reviewed but also HOV lanes and their utilization nationwide. A copy of a staff report prepared by our Metropolitan Engineer was furnished to you. In reviewing the recommendations that were included and attached in the memo to me that was attached to that report, I am of the opinion that some additional utilization of the HOV lanes can be realized through the expeditious implementation of some additional incentive programs and there may be other concepts that should be considered and I would recommend that you take action in looking towards encouraging those prior to a reexamination of the possible benefits of going to a two-person carpool or maybe do that at the same time. I await your direction.

JACKSON: What we would like would be the implementation of the Commission's recommendations passed at Bend at the end of the present experimental period starting July 1 to extend for 120 days during which time the final hearings on the ultimate disposition of the Banfield will be discussed. In addition to the recommendations made by the Commission at the Bend meeting, we would invite the other responsible organizations to implement or to speed up the implementation of other

activities which will increase the number of carpool vehicles, buses and other users of the HOV lane. In the meantime, we should clear with DEQ any requirements that they might have in the change in use of the Banfield.

COLEMAN: Mr. Chairman, would you also include in that we would like to have them give us a report at the June meeting.

JACKSON: Yes, add that to the recommendation.

8259

THE CITY OF
PORTLAND
OREGON

OFFICE OF
PLANNING AND DEVELOPMENT
GARY E. STOUT
ADMINISTRATOR

BUREAU OF
PLANNING
ERNEST R. BONNER
DIRECTOR

424 S.W. MAIN STREET
PORTLAND, OR. 97204

PLANNING
503 248-4253

ZONING
503 248-4250

May 16, 1977

Robert Bothman, Assistant State
Highway Engineer
Oregon Department of Transportation
Metropolitan Section
5821 N. E. Glisan
Portland, Oregon 97213

BE FE PR1 PR2 DE
O.S.H.D. - METRO
MAY 18 1977
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Dear Mr. Bothman:

I am writing in regard to the Banfield HOV Lane demonstration project, and have chosen to put my remarks in writing for purposes of clarity as well as due to the fact that it is quite likely that the City Planning Bureau staff will be unable to attend the next session (May 19) of the Banfield HOV Technical Advisory Committee.

Recently, I have been quite interested in the series of discussions which have taken place in the Technical Committee regarding possible modifications to the operation of the HOV Lane. Based on the reports which I have received from the Planning Bureau representative, it is clear that the Committee is interested in maintaining the operations of the facility in line with the demand recorded during past operations. This seems to be an entirely proper approach. Additionally, it is my understanding that various members of the Committee, notably Tri-Met, are interested in pursuing new ways in which even greater utility can be obtained from the project, as a means of further demonstration.

I agree quite strongly with this viewpoint, especially in light of the scheduled November hearing on the Banfield transitway and the numerous procedural and legal obstacles to terminating the current project at this time or in the near future. I have heard mentioned a number of possible methods by which further demonstration - seeking even greater use of the Lanes - could be accomplished, including the addition of another park-and-ride lot in the Gresham area, an examination of additional routing possibilities, and the active implementation of car pool pricing programs in the Portland downtown. The Planning Bureau, as I have indicated to

both Tri-Met Car Pool staff and Don Bergstrom, City Traffic Engineer, is willing to assist in any manner appropriate in the implementation of the car pool incentives program in the downtown. I hope that the HOV Lane committee, via Tri-Met, moves quickly in initiating planning on this and other programs.

I also hope that other ideas aimed at making the facility work better are given careful consideration by the Technical Committee. I would at this time like to offer one such suggestion, which, seemingly, could be considered in concert with the Tri-Met proposal of another park-and-ride lot.

Experience in other cities has shown that many potential transit riders do not use the transit system for reasons which often disappear or greatly diminish when they actually begin to ride. The problem, of course, is attracting their ridership in the first place, and this often requires some incentive. The federal government is aware of this dilemma and (Urban Mass Transportation Administration) is currently in the process of establishing demonstrations around the country which will test various ways of attracting and retaining new transit riders. One such method is through reduced fare or free fare. The demonstration approach is rather straight-forward. The transit fare is reduced or made free for a set period of time, after which it is hoped that some increase in ridership will be attained because people found the system to be attractive during the period it was free and continued, subsequently, as paying riders.

It would seem that this would be perfectly logical demonstration for the Banfield HOV Lanes, and one which Tri-Met could undertake with minimal administrative problems and actually little loss of revenue (given the current level of ridership on the Banfield Flyers). With adequate advance notice and good marketing, all Banfield Flyer rides could be made free during an established period of time, e.g., three months, after which time the fare would revert to the former rate. While such a demonstration could be initiated with the current operations, perhaps it might also be considered in conjunction with a new park-and-ride lot, if that proves to be a reality in the near future.

I am sure there are any number of other ideas which might be considered in order to improve the use of the HOV Lane. I hope that all such ideas are given thorough and positive consideration by the Technical Committee. The aforementioned free transit concept is the one which has occurred to me, and has benefits relating not only to the increased use of the HOV Lane, but also to attracting increased transit ridership and helping establish the park-and-ride lots in East County.

If you believe it is a reasonable concept to discuss, then I request that you bring it to the attention of the Technical Committee so that they, in turn, might request that Tri-Met give it consideration.

Thank you, and if I can be of any assistance in this matter, please contact me.

Sincerely,

Douglas Wright,
Chief Planner

DW:hm

cc: Mayor Neil Goldschmidt

#8259

STATE OF OREGON

INTEROFFICE MEMO

TO: THE FILE

DATE: May 13, 1977

FROM: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: Interdisciplinary Team No. 1
meeting of May 11, 1977

The following items were covered on the subject meeting agenda:

1. A progress report on the TIP and (e)4 projects at CRAG. The (e)4 projects which have now been approved that are on the state highway system should be included in the Six Year Program. These projects should be submitted to the commission for approval on the Six Year Program. This is necessary in order to schedule manpower for planning purposes. I will direct this request to F. B. Klaboe.

2. Discussion pursued the right-of-way, environment, traffic, bridge, and design sections staffing in order to support the Metropolitan Section workload. The ability of these sections to respond with adequately trained staff to move project development has been reduced. This staffing and training needs to be addressed to meet the projected workload for the development of projects currently on the Six Year Program. I will address this subject with Mr. Klaboe.

3. Don Adams reviewed the Banfield Transitway project. LRT reports from other jurisdictions supporting the project are due May 12. A management meeting should be scheduled by Adams, including Steve McCarthy, in anticipation of a delay in receiving these reports from the local jurisdictions. Responsibility for assembling the reports rests with Tri-Met. Gary Potter provided a checklist of reports expected by the Environmental Section to support the work. He advised the major effort on the DEIS will not be started until the reports are substantially complete. He also advised his staff is supporting Tri-Met in preparation of the UMTA package to develop a review of the project.

4. Ross Island Bridge/52nd Avenue Section of Powell Boulevard - The descriptions have been completed for the right-of-way requirements. Authorization to acquire right-of-way has been submitted to FHWA (Cliff Christianson advised this was approved, effective May 12). Questions were raised as to why the second A-95 was submitted on this project. The first A-95 was rotated for PE; the second A-95 was rotated for the right-of-way. I should draft a letter to Larry Rulien recommending this be reviewed, with the idea that only one A-95 per project is required. The location for this project is scheduled for transmittal to Salem in May. An agreement for the construction work is required between the city and the state to complete all components of the project. A schedule is also required to establish the deadlines for the work accomplished by the city; e.g., signal illumination, landscaping, etc. The TAC meeting is required and should be scheduled next week by Steve to establish the agreement.

125-1307

5. 50th Avenue/92nd Avenue Section of Powell Boulevard - A project will be kicked off with a public meeting this week. The CAC will be formed the following week. The traffic and DEIS work should be scheduled by Bud George and Gary Potter in accordance with the schedule which has been submitted to them.

6. Allen Boulevard Interchange - The hearing study report draft was provided by Frank Terpin for review by Potter, George, Versteeg, Boyd, and me. Discussion pursued the King Street/Lee Street realignment. The consensus of this group is to proceed with the revisions and Terpin should proceed with the hearing study report on that basis. Memos and letters have been submitted by Potter, George, Versteeg, and Boyd on this subject, as has mine. The next step is to proceed with the FEIS. About three months will be required by Potter to complete the FEIS, after which approval will be obtained for the project at the regional level, with no anticipated delays. The delay in the project to date has caused the time allowed for right-of-way acquisition to be limited to twelve months. Boyd should schedule his activities in anticipation of the authorization to proceed with right-of-way acquisition in August 1977.

7. N. Tigard/S. Tigard Section of I-5 - This project is hungup in dealing with the noise attenuation. Potter has submitted the noise attenuation requirements to Versteeg who is designing walls, etc., and should be done in about two weeks. Terpin can then proceed to complete the design study report in draft form, with the indication that we are going to mitigate the noise in conformance with federal standards. With completion of Versteeg's work, a policy will be required, obtained by Versteeg, in June to proceed with the FEIS. Potter anticipates completing the FEIS during July, August, and September. Each of the members of this team is to respond to the location study draft report within the next two weeks.

8. Scappoose Section - The transcript is now being completed. Bob Ewen will summarize the package for transmittal to the city and county to obtain resolutions from them supporting their position. Ewen will draft a summary which will be sent to Terpin so he can initiate the design study report based on the transcript and Ewen's summary. I have indicated a six-month period for a decision to the local jurisdictions, and I intend to maintain that schedule. We should have a decision within the next three months by the local jurisdictions and the state which will give us the necessary go-ahead on the Warren/Scappoose section.

9. Progress Ramp - Metro will provide the neg dec on the Progress ramp. The location work has been completed. Meetings are being scheduled with the neighborhoods and local jurisdictions.

10. Union Avenue - Discussion pursued the work requirements by the state on Union Avenue, including traffic analysis and engineering.

11. Banfield HOVL Monitoring Program - Potter will work out the requirements to support the Banfield Transitway, and to provide HOVL indirect source permit. Those are the only requirements which need to be met after July 1. I intend to maintain a minimum monitoring program to keep on top of the HOVL project.

12. Greeley Ramps - A letter has been sent to FHWA with John Hanks' analysis of the traffic impacts on I-5. The consultant has been brought on deck.

13. Front Avenue Property Disposition - Jim McClure is working to get a cover agreement. Boyd will be brought in to complete the effort. A permit of entry is probably necessary in order to facilitate the park contract, scheduled for this month on state right-of-way.

14. Oregon Slough Bridge - The project has been delayed due to a problem at the city council level concerning annexation of Hayden Island.

15. I-505 - The FEIS is at FHWA division, and will be submitted to the region this week. It should be transmitted yet this week to Washington, D.C. for approval. Christianson advised that the section of I-505 from the Fremont Bridge to 26th Avenue is considered a critical link in accordance with our interstate estimate.

16. Macadam Avenue Signals - Christianson advised that the signals on Macadam would have to be tied into the Macadam Avenue Study.

17. I-205 - Problems of noise attenuation in the Maywood Park area were discussed, and the use of Government Island by the contractors. This is not in accordance with the 4F statement which indicates none of the vegetation outside the right-of-way lines will be touched. I will contact Lloyd Anderson to insure the Port does not provide use of their lands by the contractors. Subsequent discussions with Jim Church led to letters being transmitted by Lloyd Anderson to all contractors referring them to the Oregon State Highway Division concerning any use of Port lands.

ebg

cc: Members

INTERDISCIPLINERY TEAM NO. 1

A G E N D A

May 11, 1977 - 9 a.m.

1. Banfield DEIS
2. Ross Island Bridge/52nd Avenue - Powell Right-of-way
3. 50th Avenue/92nd Avenue - Powell DEIS
4. Allen Boulevard Interchange - FEIS
5. N. Tigard/S. Tigard Section - I-5 - Location study report
6. Scappoose Section - FEIS
7. Progress Ramp - negative declaration
8. Broadway/Columbia - Union Avenue - State participation
9. HOVL monitoring program
10. Project Staff meeting memo

ebg

Telephoned 5/10/77

J. H. Versteeg
J. B. Boyd
F. E. Terpin
G. A. Potter

8251

STATE OF OREGON

INTEROFFICE MEMO

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4 b (3)

TO: H. S. COULTER
State Highway Engineer

DATE: May 12, 1977

FROM: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: Banfield Freeway HOVL project

Attached is a staff report and an advisory committee report responding to Commission action to revise the operation of the HOVL's on the Banfield Freeway.

Attached to the staff report is a plot of the peak-hour speeds and volumes during both a.m. and p.m. peaks. Attached to the technical advisory committee report are responses from the local jurisdictions, including the city, the county, Tri-Met, and DEQ responding to the Commission action.

I recommend the current three-occupant carpools, and current three-hour-peak periods be maintained at this time. I recommend taxis with fares be allowed to use the HOVL's. These recommendations are consistent with the recommendations of the advisory committee representing the local jurisdictions.

I believe the objectives of the project are best supported by three-occupant carpools and three-hour-peak periods. The objectives of the project can best be obtained by providing additional incentives to attract additional ridership to buses and carpools.

I recommend the Oregon Transportation Commission, acknowledging the objectives of the project, and the current heavy congestion on the freeway, request the Mayor of Portland, Chairman of the Multnomah County Commission, and Chairman of the Tri-Met board expeditiously implement incentive programs to encourage the use of the HOVL's by bus riders and carpoolers to relieve the heavy congestion on the Banfield Freeway. I recommend the Commission request these jurisdictions immediately implement the downtown parking program, Gresham park-and-ride stations with service to the Banfield HOVL's, and rerouting of East County buses to maximize the use of the Banfield HOVL's, with consideration of a free-fare demonstration period as an incentive program to increase transit ridership from East County using the Banfield HOVL's.

ebg

attachments

cc: F. B. Klaboe

NOTED
F. B. KLABOE

Fred:
Packets handed
to Brit & Walsh
5-12-77. Scott has
copies for other
Commissioners etc.
Bothman

RECEIVED
DOT OPERATIONS
MAY 13 '77
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81-123-1307

Oregon Department of Transportation
Metropolitan Section

May, 1977

Banfield High-Occupancy Vehicle Lanes

Report to Oregon Transportation Commission

On April 19, the Oregon Transportation Commission instructed that revisions be made to the HOVL project on the Banfield Freeway in Portland or provide evidence as to why the request should not be implemented. The instructions were to open the HOVL's to two-person carpools, shorten the restricted-hour usage to two-hour periods, and allow taxis to use the HOVL's during the restricted peak hours.

The Banfield HOVL's were implemented with the joint concurrence of the City of Portland--the local jurisdiction--and Tri-Met--the local transit agency. The funding for the project was provided by transfer of urban system funds assigned to CRAG.

The Banfield project is one of six national projects underway which are evaluating methods to increase the use of transit, and decrease the use of single-occupant automobiles. A federal grant to provide monitoring for the HOV lane demonstration project has allowed the Department to collect statistics for analization.

The HOVL's are consistent with the regional transportation plan which places a major emphasis on transit and increased utilization of existing facilities to absorb the growth in movement in the metropolitan Portland area.

The HOVL's in the Banfield are consistent with the transportation control strategy developed to comply with the national ambient air standards for motor vehicles for Portland in 1975. Preferential lanes in the Banfield are delineated in the transportation control strategy which is a part of the clean air plan for Portland. The plan calls for preferential treatment in all four corridors; north, south, east, and west, by 1975. The Banfield corridor is the only corridor where we have complied with the transportation control strategy. We currently have a project under construction in the south corridor; an exclusive bus lane on Barbur Boulevard, which will connect a park-and-ride station under construction in West Portland with the downtown transit mall under construction.

In developing the Banfield HOVL project, the Department of Environmental Quality (DEQ) agreed to approve the project from environmental aspects on the basis of a demonstration project. ODOT did not address the impacts of the project which would have required an environmental impact statement, resulting in a one to two-year delay. DEQ agreed to expediting the project with a monitoring program evaluating the impacts of the project as it progressed. This entire approach is documented in the environmental study which indicated the HOVL project did not have an immediate adverse impact upon the area. That evaluation was made for HOVL's, based on three-occupant carpools, and a full-time operation of the HOVL's. An indirect source permit required on all highway construction projects on freeways of this size was not obtained pending the outcome of the demonstration project.

The approach in the Banfield corridor was to not allow a duplication of events that have occurred in Los Angeles, where the growth in the use of the automobile was allowed to develop without a transit facility. After that growth had

occurred, a transit plan was introduced by removing auto lanes. In Portland the attempt is to provide an attractive alternative to the auto during the growth in the area, so the growth will occur with both auto and transit alternatives available to the public.

The objectives of the Banfield HOVL's are to:

1. Increase the people-carrying capacity of the freeway
2. Fulfill the guidelines of the Oregon Clean Air Implementation Plan
3. Increase fuel efficiency by increasing the person-per-vehicle ratio

A brief summary of the statistics analized on the Banfield HOVL's to date:

1. The Banfield Freeway has absorbed a 9 per cent growth in vehicles in the past 15 months and is moving 28 per cent more people during the peak hour. This represents an additional 3400 persons using the Banfield Freeway during the peak hour. Of these persons, 2600 additional persons are using the HOVL. The remaining growth, 800 persons, has occurred in the two regular auto lanes.

2. The HOVL's are carrying 20 per cent of the persons using the freeway during the rush hour, in 5 per cent of the vehicles.

3. The speeds in the regular auto lanes are close to the same as before the project. Speeds are averaging 33 m.p.h. during the p.m. compared to 30 m.p.h. in 1975, and 36 m.p.h. during the a.m. compared to 38 m.p.h. in 1975. These speeds have been maintained with the 9 per cent growth in vehicles during the peak hour.

4. Ridership in both buses and carpools continues to increase. The "Banfield Flyers" are carrying 525 patrons compared to 300 in January 1976. Carpools have increased from 106 average to 525 (377 in the HOVL's) in March 1977.

5. The violation rate is less than 1 per cent of the vehicles on the freeway.

6. Accident rates are at the 1975 level.

A comparison of the average speeds to the rate of average number of vehicles per lane per hour on the Banfield Freeway provides an indication of the congestion during the a.m. and the p.m. peak hours. The freeway is signed for 55 m.p.h. The recorded average speed during the off-peak periods is 55 m.p.h. The attached graphics show that as the traffic volumes pick up during the peak hour periods, the speeds are reduced. As shown on the attached chart, 1200 vehicles per lane per hour is considered a satisfactory level of service. The plot verifies this design criteria indicating that during the three-hour peak when the vehicles exceed 1200, the speeds are reduced below the designated 55 m.p.h. The vehicles in the HOVL's are operating at an average 10 m.p.h. faster than the vehicles in the regular travel lanes during the peak hour. These speeds point out the three-hour period during which there is an incentive provided to use the HOVL's.

The ODOT traffic section has provided an analysis of the proposal to provide two-person carpools. The conclusions reached indicate the two-person carpool concept would increase traffic volumes on the freeway, would improve the speeds and level of service on the freeway, would slightly improve the operation of parallel arterials by reducing the number of vehicles on those streets, and would not provide a significant impact upon transit ridership.

During the p.m. critical peak hour, 26 per cent of the vehicles are carrying two occupants, or more. The effect of using the two-occupant carpool is similar to opening the entire freeway to all vehicles, with the potential of carrying 26 per cent of the vehicles in the HOVL's, and 37 per cent of the vehicles in each of the adjacent lanes. The effect would be to increase the carrying capacity of the freeway for single-occupancy vehicles by 20 per cent. Today, 20 per cent of the vehicles carry two occupants.

A recent survey taken by ODOT of users of the HOVL's indicates cost savings was the most mentioned incentive contributing to the formation of carpools. Convenience was mentioned as a strong second. Users of the HOVL's indicated traffic flow improvements and carpools were the best way to improve air quality. Most carpool users of the HOVL's commented that the lanes should be opened to two-person carpools.

The non-users of the HOVL's indicated that inconvenience was the major reason for not carpooling. A need for the car at work was the second most often given reason for not carpooling. Both traffic improvements and mass transit were indicated as the major activity needed to improve air quality. Most non-users of the HOVL's commented that the lanes should be opened to all vehicles at all times, or at least to two-person carpools. They felt the lanes were not being used enough during the peak hours to warrant the preferrential lanes.

The survey received a high rate of response from both users and non-users, indicating high interest in the project. This is further demonstrated by the number of people who responded by written comment about the project. Several of these comments consisted of two or three page letters. Most people said they wanted the HOV lanes opened to all traffic at all times.

The Banfield HOVL Technical Advisory Committee, consisting of the representatives from the city of Portland, Multnomah County, Tri-Met, DEQ, the Oregon State Police, business and neighborhood representatives, and ODOT formed a consensus that the changes requested by the Commission should not be implemented at this time. It recommended the Commission allow taxis with a fare to use the HOVL. It was felt that when taxis are carrying passengers, they are providing an auxilliary transit service which supports buses. In summary, the committee's recommendations were based upon the failure of proposals to provide additional incentive for transit and carpooling, encourage additional carpools, encourage additional use of the HOVL, encourage additional energy conservation, improve safety, ease enforcement, and meet the objectives of the HOVL demonstration project. The advisory committee strongly urged a program to implement additional incentives to use carpools and buses, including implementation of the downtown parking incentive program which provides parking for carpools, initiation of a park-and-ride station in Gresham connected by "Flyers" to the HOV lane, and improvement of routing East County buses to make better use of the HOVL's.

The objectives of the project are best served by retaining three-person carpools and the three-hour-peak restriction. The use of the HOVL's by taxis is nominal and would have no affect upon the operation of the facility. The project has been carried out under a cooperative effort with the participating agencies, and that cooperative effort should be maintained by the Commission by continuing the existing operation. The only revision advised at this time is to allow taxis with a fare to use the HOVL's during the peak hours.

The Commission is advised to strongly encourage the city of Portland, Tri-Met, and the county to expedite implementation of additional incentives to attract transit and carpool use of the HOVL's.

ebg

attachments

ODOT
RNB/ebg
5/12/77

COMPARISON OF THE AVERAGE
S
OF AVERAGE NUMBER OF VEHIC
E.B. ON THE BANFIELD FREEWAY
EXCLUDING HOV
APRIL, 19
E.B.
HOV LANE RE

RATE OF AVERAGE NUMBER OF VEHICLES PER HOUR PER LANE

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2000
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——— Rate of Average Number of Veh

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L, 1977
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COMPARISON OF THE AVERAG
OF AVERAGE NUMBER OF VEHI
W.B. ON THE BANFIELD FREEWAY
EXCLUDING HO
APRIL, 19
W.B.
HOV LANE RE

RATE OF AVERAGE NUMBER OF VEHICLES PER HOUR PER LANE

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6:00 A.M. 6:30 7:00 7:30 8:00

TIME OF

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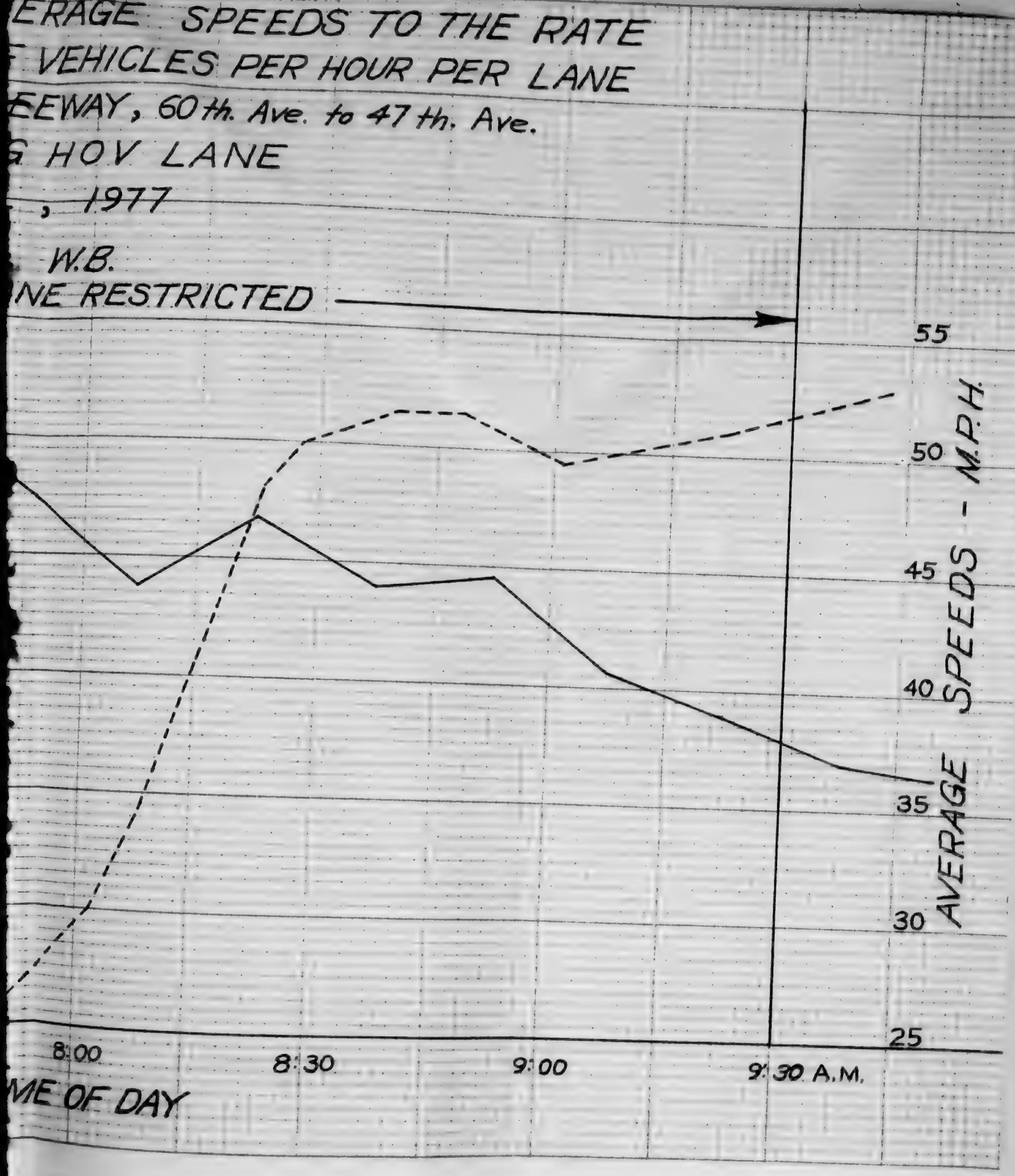
F VEHICLES PER HOUR PER LANE
EEWAY, 60th. Ave. to 47th. Ave.
G HOV LANE
, 1977
W.B.
NE RESTRICTED



FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE
3700 S.E. 92ND AVENUE
PORTLAND, OREGON 97266

FILE:

MAY 5, 1977

FROM: JERRY C. STREET
RESIDENT ENGINEER Jerry C. Street

SUBJECT: BANFIELD H.O.V. LANE
T.A.C. DECISIONS

TO: MR. ROBERT BOTHMAN
ASS'T STATE HIGHWAY ENGINEER

I would like to convey to you the position of the Banfield H.O.V. Lane Technical Advisory Committee regarding the recently discussed operational changes to the H.O.V. Lanes. These changes which were recommended by the ODOT Commission were as follows:

1. Open up the H.O.V. Lanes to 2-person carpools.

2. Allow taxis to use the H.O.V. Lanes.

3. Shorten the time of restricted use of the H.O.V. Lanes.

All of these changes were discussed and voted upon. Outside of allowing taxis with fare to use the H.O.V. Lanes, the operational changes recommended by the Commission were rejected at this time.

The Committee's consensus was that these proposals did not meet the goals of the project to move more people in fewer vehicles. Also, it was felt that not all of the ideas for incentives to entice people to form 3-person carpools and to ride the buses had been exhausted.

Some of the new incentives discussed, which the Committee would like to implement, are as follows:

1. Tri-Met is in the process of reviewing ridership demands and needs to complete their sensitivity analysis to consider additional routes in the Banfield that would use the H.O.V. Lanes.

2. Another Park and Ride station for both the Banfield Flyer and Powell Blvd. buses will soon be available in East County at a drive-in theater lot near 221st-Burnside Street. More than 300 parking spaces at this location will be available for transit riders.

3. A downtown parking incentive program which provides on-street parking for carpoolers at 6-hour meters is close at hand. This plan would involve about 500 parking spaces. Carpoolers would pay a substantially reduced monthly fee which would act as a powerful incentive to carpool.

It is hoped that these incentive programs can be implemented as soon as practical so that their affect on the Banfield H.O.V. Lanes can be studied during the last couple of months of the Monitoring Project.

BANFIELD FREEWAY
OPERATION OF H. O. V. LANES
APRIL 28, 1977
SPECIAL MEETING OF T. A. C.

On April 28, 1977, the Banfield H. O. V. lane Technical Advisory Committee met to consider the following operational changes that were requested by the Oregon Transportation Commission:

1. Allow 2 person carpool vehicles to use the H. O. V. lane
2. Allow taxis to use the H. O. V. lane
3. Shorten the hours of restricted use of the H. O. V. lanes

It was the concensus of the committee that these changes not be implemented at this time. It was recommended by the committee that the Oregon Transportation Commission allow taxis with fare to use the H. O. V. lanes. It was felt that when taxis are carrying passengers, they are providing an auxiliary transit service which may indirectly help support the use of buses by people working in the central city. Also, they are a recognized form of para-transit by the US DOT and comply with the project objectives of increasing the vehicle occupancy rate in the corridor.

The following is a summary of the committee's recommendations:

1. NOT ALLOW TWO PERSON CARPOOLS TO USE THE H. O. V. LANE

   Incentive - the H. O. V. lanes were initiated to provide an incentive for transit and carpooling by reducing travel time. Allowing 2 person carpools would quadruple the number of vehicles in the H. O. V. lanes. The speeds in the H. O. V. lane would decrease as the speeds in the normal lane increased to even out the travel times so there would not be an incentive to carpool or use buses.

   Encourage Carpooling - the O. D. O. T. traffic projections for 1982 did not indicate an increase in the total percent of carpools over the existing 1977 conditions. Thus, the proposal to allow 2 person carpools in the H. O. V. lane would not (in the long range) encourage the formation of carpools.

   H. O. V. Lane Objectives - the objectives for the H. O. V. lane demonstration project were to increase the people carrying capacity of the freeway in peak rush hours, to help fulfill the guidelines of the Oregon clean air plan, and to help commuters use fuel efficiently, by increasing the number of persons in each vehicle: By allowing 2 person carpools to use the H. O. V. lanes, these objectives would not be achieved.

   Increased Use of H. O. V. Lane - a review of the peak hour traffic data indicates that the H. O. V. lanes are carrying 20 percent of the people using the freeway, in 5 percent of the vehicles. If the proposed 2 person carpool was initiated, it is estimated that 39 percent of the people using the freeway would be in the H. O. V. lanes in 20 percent of the vehicles. Therefore, the 2 person carpool increases the numbers of vehicles in the H. O. V. lane fourfold while only doubling the number of person-trips; Indicating a step backwards in terms of increasing the occupancy rate in the H. O. V. lanes.

Energy Conservation - from an energy conservation viewpoint, the proposed operational change appears to be another step backwards. The traffic data indicates a net increase of 350 vehicles per hour (Banfield volume increases less arterial street volume decreases) during the rush hours under the 2 person carpools concept. If you assume an average one-way trip length of ten miles, the traffic volume increase represents an additional 3500 vehicle miles of travel during the rush hour period - certainly a trend not consistent with state and federal energy conservation goals.

Safety - the increased number of 2 person carpools crossing back and forth across the normal travel lanes to utilize the H. O. V. lanes may prove hazardous. Based on the additional lane changing, it would make driving less safe for every one using the freeway.

Enforcement - of the H. O. V. lanes could be more difficult if 2 person carpools are allowed in these lanes. The increased volumes of vehicles in the H. O. V. lanes could make it difficult in detecting and dangerous in apprehending single occupant vehicles.

Parking Program - not all alternatives to make this demonstration work more effectively, i.e., making the formation of a carpool or riding the bus more attractive, has been employed. The City of Portland and Tri-Met are currently working towards a downtown incentive parking program which would offer carpoolers less expensive rates for both on-street (6 hour meters) and off-street parking spaces. Tri-Met has secured a large theater parking lot in Gresham for a new Park & Ride station.

Trial Period - if the 2 person carpool option were to be initiated on a trial basis and found to be unworkable, reversion to the 3 person carpool requirements would be difficult to institute and politically impossible.

Evaluation - finally, the project should be evaluated on its merits at the end of the demonstration in July rather than making changes whose ramifications could not be adequately assessed at the end of a two month trial period.

2. NOT ALLOW TAXIS WITHOUT FARE TO USE H. O. V. LANE

Taxicabs - are not energy efficient and their air pollution impact is the same as any other automobile, and they do not directly increase the people carrying capacity of the Banfield when empty of fares.

Consistency - these vehicles are not consistent with the present 3 person regulation and that they will generate additional enforcement problems.

Definition - of a taxi is hazy and could open the door to many other commercial and non-commercial vehicles to request similar exemptions.

3. NOT SHORTEN THE HOURS OF RESTRICTED USE OF THE H. O. V. LANE

Historically - the peak hours of travel on the Banfield have expanded over the years. Reducing the hours of H. O. V. lane operation would provide no incentive for these persons currently using the H. O. V. lanes to carpool, as the vehicles would be required to flow with the normal traffic, thus reducing their travel time.

Loss of Incentive - decreasing the hours of H. O. V. lane operation would provide a disincentive to carpoolers who use the lanes during its early hours of operation both in the morning and afternoon, as they would be required to make their trip without the advantage of an exclusive lane, hence little, if any, travel time savings. Likewise, the Early Bird Express and two Flyer Tri-Met buses use the H. O. V. lanes prior to 7 a.m. and are able to save travel time by doing so.

Traffic Counts and Speed Studies - done by O. D. O. T. indicate that the three-hour period is necessary to "bracket" the traffic congestion, and reduced speeds.

Operational - a clearance period of at least one-half hour prior to the need is desirable from an operational standpoint, to allow one occupant vehicles to clear the lane. Enforcement during the early part of the restricted hours is simplified if there is some lead time.

Public Desire - response to the commuter survey and reports from the media and from the public at meetings indicate no desire for this time reduction.

THE CITY OF
PORTLAND
OREGON

OFFICE OF
PLANNING AND DEVELOPMENT
GARY E. STOUT
ADMINISTRATOR

BUREAU OF
PLANNING
ERNEST R. BONNER
DIRECTOR

424 S.W. MAIN STREET
PORTLAND, OR. 97204

PLANNING
503 248-4253

ZONING
503 248-4250

May 3, 1977

Jerry Street
Oregon Department of Transportation
3700 S.E. 92nd Avenue
Portland, Oregon 97266

Dear Jerry,

As per your request, enclosed are the City of Portland, Bureau of Planning's positions on the issues brought forth at the special High Occupancy Vehicle Lane Technical Advisory Committee meeting held April 29, 1977.

If you have questions, please contact me at the Bureau of Planning, 248-4254.

Sincerely,

Laurel Wentworth

Laurel Wentworth
Assistant Planner
Transportation

LW:hm
Enclosure

ISSUE I: Three vs. Two Person Carpools:

1. The data provided by ODOT to the TAC did not adequately support any increased carrying capacity of the Banfield Freeway, one of the goals of this project. The traffic projections show approximately 20% of the total freeway traffic during the peak hours of operation using the HOVL in 5% of the total number vehicles on the facility. This exhibits no gain in vehicle occupancy or reduction of total vehicle miles travelled over the three person carpool.

2. Given the two person carpool condition, the traffic analysis does not appear to project the current operation of the HOVL, freeway and city arterials adequately, thus no positive conclusion could be ascertained from this information.

3. Benefits, in terms of reduction in emissions and total number of vehicle miles travelled, and vehicle occupancy rates, will not be incurred at as fast a rate of increase under the two person vs. the three person carpool conditions.

4. If the two person carpool option were to be initiated on a trial basis and found to be unworkable, reversion to the three person carpool requirement would be difficult to institute, and a loss in total number of carpools would be expected.

5. Not every possible alternative to make this demonstration work more effectively, i.e., making the formation of a carpool or riding the bus more attractive, has been employed. The City of Portland and Tri-Met are currently working toward a downtown incentive parking program which would offer carpoolers less expensive rates for both on-street (6 hour meters) and off-street parking spaces. Additionally, Tri-Met has secured a large theatre parking lot in Gresham to better serve the Banfield Flyer patrons together with existing park 'n ride lots currently operating.

6. The objectives originally outlined by the Technical Advisory Committee for the HOVL demonstration project, would not be met. The person carrying capacity, vehicle occupancy rate, and number of vehicle miles travelled would decrease while total auto emissions would be on the rise.

7. Fianlly, the project should be evaluated on its merits at the end of the demonstration in July rather than

making changes whose ramifications could not be adequately assessed at the end of a two month time period.

ISSUE II: Change in the hours of HOVL operation:

1. Historically speaking, the peak hours of travel on the Banfield Freeway have expanded over time. Reducing the hours of HOVL operation would provide less incentive for those persons currently using the freeway to carpool, as the vehicles would be required to travel in non-HOVL lanes with the normal flow of traffic, thus reducing their travel time.

2. The comparison of actual vehicle counts and speed during the peak hour show that during hours of HOV lane operation in the east-bound direction, traffic volumes in the normal traffic lanes are well above the 1200 vehicles per lane per hour standard set for level of service C operation on the freeway. The same conditions in the a.m. peak hour hold true with the exception of perhaps 15 minutes on either end of the HOVL operation period. Thus, during the hours of HOVL restriction, the freeway corridor is operating at a level less than level of service "C" which speaks to the need for the continuation of the HOVL under its present hours of service, to relieve congestion, speed traffic movement in the corridor and generally improve the ability of the facility to move more people.

3. Decreasing the hours of HOVL operation would provide a disincentive to carpoolers who use the HOVL during its early hours of operation both in the morning and afternoon, as they would be required to make their trip without the advantage of an exclusive lane, hence little, if any, travel time savings. Likewise, the Early Bird Express and two Flyer Tri-Met buses use the HOVL prior to 7 a.m., and are able to save travel time by doing so.

4. A clearance period of at least one half hour on the half hour is desirable from an operational standpoint, to allow those one occupant vehicles who may find themselves unknowingly in the HOVL, time to clear the lane before the mini peak on the hour.

ISSUE III: Introduction of taxis into the HOVL

1. Taxis are a recognized form of para-transit by the U.S. Department of Transportation, and comply with the

projects objectives of increasing the vehicle occupancy rate in the corridor.

E IV: Introduction of motorcycles into the HOVL

1. Encouraging the use of any one occupant vehicle would be discriminatory and detrimental to public reception of the HOVL project.

2. Motorcycles do not offer improved air quality to the corridor and are, in fact, less efficient in terms of emissions than new automobiles which receive the same level of gasoline mileage.

3. There would be a definite weave problems for motorcycles accessing and exiting the HOVL, as they may not be easily seen by other motorists, thus causing a safety hazard.

MULTNOMAH COUNTY OREGON

OFFICE MEMORANDUM ... DIVISION OF PLANNING AND DEVELOPMENT

TO: Jerry Street, ODOT

DATE: May 6, 1977

FROM: Connie Cleaton

SUBJECT: Banfield HOV Lanes

Below are the reasons I voted against the proposed changes to the HOV lanes at the April 28 meeting:

Two person carpools

1. The HOV lane was initiated to provide an incentive for ride sit and carpooling by reducing their travel time. Allowing two-person carpools would probably significantly increase the number of cars in the lane. Impact on transit would be similar to the HOV lane and increase in the other lanes. If the speeds even out enough so that there is no difference in travel times, then there is no reason to have an HOV lane.

2. The increased number of cars entering the HOV lane would result in regular travel lanes to the HOV lane and slower speeds in both lanes. At the very least, it would make entering more difficult for everyone using the freeway.

3. The purpose of the project is to increase [illegible] and reduce the number of cars in rush hour. Two person carpools are much less efficient than three person carpools. If the reduction of the cars in the HOV lane would be a [illegible] would only produce a net decrease of [illegible].

4. Traffic is planning a transit center [illegible] site in the Lloyd [illegible] park. If two person carpools [illegible] the transit center [illegible] the HOV lane.

5. There would not be enough room in median [illegible] carpool people leave the car [illegible] between lanes and [illegible] for emergency [illegible].

Taxicabs

Taxicabs are not energy efficient, their air pollution impact is the same as any other automobile, and they do not directly increase the people carrying capacity of the Banfield. However, they do provide an auxiliary transit service and may indirectly help support the use of buses by people working in the central city. Therefore, they should be able to use the lane when they are carrying a fare. When they are empty, they are not providing a service, the driver may be using the cab for personal business, and other freeway users would resent the special treatment given to taxicabs.

Motocycles

Motorcycles pollute the air more than automobiles and are not that energy efficient compared to small and medium sized cars carrying three passengers. This also represents a special examption for a single-occupant vehicle.

Reduce Hours

1. The three hour period just covers the peak traffic volumes now (over 1200 vehicles/lane).

2. Peak volumes vary during different times of the year. Reducing the hours provides no leeway for this variation. It also provides no leeway for growth in volumes during the fringe times.

3. Enforcement during the early part of the restricted hours is simplified if there is some lead time. If the restriction begins during the highest volume period, motorists can claim their watch was slow or they had not noticed the time, and enforcement during the critical hour will be hampered.

4. Response to the commuter survey and at public meetings has not indicated any desire for this reduction.

TRI-COUNTY
METROPOLITAN
TRANSPORTATION
DISTRICT
OF OREGON

TRI-MET

PACIFIC BUILDING
520 S W. YAMHILL STREET
PORTLAND, OREGON 97204
(503) 238-4844

May 6, 1977

Mr. Jerry Street
Oregon State Highway Division
5821 N.E. Glisan Street
Portland, Oregon 97213

Dear Jerry:

At the conclusion of the April 28th Banfield HOV Lane TAC, you requested that each Committee member supply written comments regarding his vote on the HOV lane modifications recommended by the Oregon Transportation Commission. The following is a summary of Tri-Met's position on each issue:

1. Two-Person Carpool

Tri-Met is opposed to reducing the HOV minimum occupancy requirement from 3 persons to 2 persons for the following reasons:

- This proposal would (in part) remove the incentives provided by the HOV lane, and possibly result in reduced transit (Banfield Flyer) usage in the corridor.

- ODOT traffic projections for 1982 did not indicate an increase in the total percent of carpools over the existing 1977 conditions. Thus, the proposal would not (in the long range) encourage formation of carpools.

- The change in auto occupancy presents a fundamentally different situation: It would, in effect, increase the freeway capacity for single occupant vehicles rather than provide an incentive to transit and carpools.

2. Change in HOV Lane Hours

Tri-Met is opposed to reducing the HOV lane operational period from 3 hours to 2 hours for the following reasons:

- A two-hour period (7:00 to 9:00 a.m., 4:00 to 6:00 p.m.) would reduce the travel time savings for those carpools and buses currently using the HOV lanes during the first and last half-hours of each peak period.

. The traffic counts and speed studies done by ODOT indicate that the three-hour period is necessary to "bracket" the traffic congestion.

3. Taxi Cab Exemption

Tri-Met remained neutral on this issue.

If you have any questions regarding the above information, please give me a call.

Sincerely,

Ron Higbee
Transportation Engineer

RH:jd

ROBERT W. STRAUB
GOVERNOR

Department of Environmental Quality

1234 S.W. MORRISON STREET, PORTLAND, OREGON 97205 Telephone (503) 229-6279

May 10, 1977

Mr. Jerry Street
Metropolitan Division
Oregon State Highway Division
5821 N. E. Glisan Street
Portland, Oregon 97213

Re: Banfield HOV Lane Project

Dear Jerry:

As requested, I am giving you the reasons why I voted no on several proposed operational changes to the Banfield (I-80N) HOV Lane Project. Before I give you a detailed response as to the reasons for my votes, I want to clarify what I perceive is my position on the Technical Advisory Committee (TAC).

As I stated at the TAC meeting of April 28, it is my position that I was voting an individual and not necessarily representing the Department's official position on the issues voted on by the TAC. Since the Department was never formally requested to evaluate the various proposed operational changes to the Banfield HOV project, I felt I was not obligated to develop the Department's official response to these issues at this time. Therefore, my comments should be considered representing my individual judgment and not necessarily that of the Department.

1. Revise the definition of High-Occupancy Vehicle to include two person carpool.

   After reviewing the data developed to indicate the impact of this proposed operational change, I was not convinced this change is consistent with the overall goals of the project. According to the "Banfield HOV Quarterly Report" of April 15, 1977, the objectives of the Banfield HOV project "were to increase the people-carrying capacity of the freeway in peak rush hours, to help fulfill guidelines of the Oregon Clean Air Implementation Plan and to help commuters use fuel efficiently, by increasing the number of persons in each vehicle" (author's emphasis).

Commission
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Paper

A review of the traffic data indicates that presently 20% of the persons are being carried by approximately 5% of the total vehicles in the HOVL's during the rush hours. Since the start of the project, daily ridership on the Banfield Flyers has increased 182% while the number of carpools has increased 395% [106 to 525 (377 in HOVL)]. I have estimated the present occupancy rate in the HOVL's to be approximately 6.3 persons per vehicle. If the proposed two person carpool configuration was initiated, it is estimated that this average occupancy rate would be reduced to approximately 3.0 persons per vehicle. While the percentage of total person-trips in the HOVL's is estimated to increase from 20% to 39% in 1977 as a result of this proposed change, the percentage of total vehicles would increase from 5% to 20%. Therefore, the two person carpool configuration increases the number of vehicles in the HOV lane by four times while only doubling the number of person-trips - clearly a step backwards in terms of increasing the occupancy rate in the HOV lanes.

For the year 1982, I have estimated that the HOV occupancy rate would increase to approximately 6.9 persons per vehicle in the three person carpool configuration as compared to 3.5 persons per vehicle (two person carpool configuration). The percentage of total person-trips is estimated to increase 10% (20% to 30%) in the HOVL's (3 person carpool configuration) with only 7% of the total number of vehicles, while the two person carpool configuration would result in an estimated 5% increase in total person trips with 21% of the total vehicles in the HOVL's during the rush hours.

In 1982 the difference between the overall occupancy (HOV+Non-HOV lanes) rate between the three and two person carpool configuration is estimated to be less than a tenth of a point 1.60 (3 person) versus 1.68 (2 person). If you assume that Banfield transit ridership is reduced to a greater amount than presently estimated as a result of the proposed change or that the number of three person carpools increases dramatically as a result of the creation of special preferential carpool-only parking spaces in the CBD, then it is quite conceivable that the overall occupancy rate for the three person carpool configuration could be equal to or higher than for the two person carpool configuration.

From an energy conservation viewpoint, the proposed operational change appears to be another step backward. The traffic data indicates a net increase of 350 VPH (Banfield traffic volume increases less arterial street traffic volume decreases) during the rush hour under the two person carpool mode of operation. If you assume an average one-way trip length of 10 miles, this traffic volume increase represents an additional 3500 vehicle miles of travel (VMT) per rush hour period - certainly a trend not consistent with state and federal energy conservation goals.

From an air quality viewpoint, it is difficult to assess the long-term impact of the two person carpool vs. three person carpool operation since the traffic analysis did not include an estimate of the traffic impact of the soon-to-be initiated priority carpool parking spaces in downtown Portland. Since the results of the recently completed commuter survey indicates thirty-seven percent of the non-HOV lane users and 50% of the HOV lane carpool users travel to the Portland CBD, the impact of the special carpool parking space program could be very significant on the long-term operation of the Banfield HOV project.

In conclusion, I have voted no on the conversion from three to two-person carpool for the above stated reasons. I still believe there are other options that need to be tested and evaluated such as the special carpool-only parking spaces within the CBD, employer carpooling incentive programs, improved public relations programs, etc., before we further consider the opening of the HOV lanes to 2-person carpools.

2. a. Allow taxis to use the HOV Lane with only the driver in the vehicle.

   b. Allow taxis to use the HOV Lane with only the driver and one passenger in the vehicle.

I have voted no on both of these proposals since I believe they are not consistent with the present three-person carpool regulation and that they will generate additional enforcement problems. While I recognize the taxi company's economic arguments for this exemption, granting this exemption could open the "door" for other operators of commercial and non-commercial vehicles to request similar exemptions based on economic grounds. Where would you draw the line for allowing one type of user and not another? In addition, I believe law-abiding non-HOV users would resent the fact an automobile (taxi) with less than 3 persons has been given a special exemption based on economic grounds. Equity in terms of enforcement of the three person carpool regulation must be an essential ingredient of this HOV program if it is to be successful.

3. Allow motorcycles to use the HOV Lane.

I voted no on this proposal basically for the same reasons I voted no on the taxi proposals. While the proponents of this exemption have used the arguments of energy efficiency as an argument for allowing motorcycles to use the HOV lanes during rush hours, the actual facts indicate that an automobile with three persons that consumes 1 gallon of gasoline for every 18 miles of travel (18 MPG) is more energy efficient than a 50 MPG motorcycle (54 passenger-miles/gallon Auto vs. 50 passenger miles/gallon motorcycle). In addition, on the average a new motorcycle has a carbon monoxide emission rate (gm/mile) three times higher than for a late model automobile. Therefore, from an air pollution viewpoint, there is no advantage in promoting the use of motorcycles in the HOVL's.

4. Shorten the hours of the restricted use of the HOV Lanes

After a thorough discussion of this proposal by the TAC, I was convinced that there is no advantage in shortening the hours at this time. A review of the traffic data indicates that the present starting hours for restricting both the east and west bound HOVL's to 3-person carpools and buses are appropriate given the present traffic volumes and speeds. In addition, it is quite possible carpooling may be discouraged by shortening these hours during the a.m. rush hour period.

I hope this letter has been responsive to your request. Please call me if you need further clarification of my comments.

Sincerely,

WILLIAM H. YOUNG
Director

Carl A. Simons

CAS:lb

Carl A. Simons, Coordinator
Air Quality Maintenance Planning

8259

STATE OF OREGON

INTERCE MEMO

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TO: THE FILE

DATE: May 4, 1977

FROM: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: Comments - HOVL, TAC meeting
April 28, 1977

The subject meeting was a special meeting called to consider the recommendations of the Oregon Transportation Commission.

Jack Sullivan's report was provided for discussion; it indicated two-person carpools would increase traffic volumes on the freeway and improve the speeds and level of service over the existing three-person-carpool HOVL. The report was criticized by both Multnomah County and Tri-Met representatives, questioning the speeds and traffic volumes; more particularly, the sensitivity of the analysis towards the incentive provided with the HOVL intact under current regulations. Tri-Met representatives indicated the need for a sensitivity analysis for the bus ridership in order to make projections for future bus ridership under the two different conditions, two-occupant and three-occupant carpools. General agreement was that the carpool program needed additional incentives in order to make it work and be responsive.

The objectives of the project were restated--to increase the people-carrying capacity, meet the Clean Air Plan, and increase fuel efficiency. The TAC felt three-occupant carpools better met the objectives.

Discussion pursued the incentives underway to meet the objectives, including the downtown and Lloyd Center parking programs, and a park-and-ride station program for East County. Indication was there is a definite need to work on additional incentives, and to accelerate work on the incentives programs.

Tri-Met indicated the downtown parking program was well underway; there is some confusion since the program provides for two-occupant carpools. The program provides for 500 on-street parking spaces, plus public and private parking. The downtown parking was indicated to be by permit, at $10 a month.

Consensus of the TAC was that the direction of the project should remain intact with the three-occupant carpools.

Discussion pursued the park-and-ride lot in Gresham at 221st and Burnside where DEQ has requested, as part of the indirect source permit, the use of the parking lot for a park-and-ride station during the day. At that location a park-and-ride station is ready, if Tri-Met will put it to use, by routing and adding buses from that location.

NOTED
F. B. KLABOE

DEQ reviewed the requirement of an indirect source permit. It clearly would be required on a six-lane freeway provision, which the TAC recommended against last week. In order for DEQ to make a decision on the two-occupant carpools, they need additional information. The data submitted by ODOT to date was not adequate. They need more indication of the impacts as opposed to technical data on the use of the HOV lane.

81-125-1307

The TAC considered two-occupant carpools: DEQ, no; Tri-Met, no; Multnomah County, no; city planning, no; city traffic, yes; citizen, yes; Oregon State Police, abstained; ODOT's vote would have been yes; however, as chairman, was not cast.

The DEQ representative indicated there has been a substantial improvement in air quality to date which he felt justified sticking with the current regulation. He expressed concern with the reality of restriping the freeway to four lanes if the HOV lane is abandoned. He also expressed considerable concern that it would ever be feasible to revert to three-occupant carpools from two-occupant carpools. It is difficult to take the easier restriction away once the public becomes accustomed to it. Therefore, since the project is acceptable and working at this time, there is no reason to go to two-occupant carpools. He suggested delaying such a decision until the study is completed July 1.

The TAC considered HOVL use by taxis. This subject had been thoroughly explored previously by the committee. After a minimum amount of discussion, the vote was as follows: DEQ, no; Tri-Met, abstained; city planning, yes; city traffic, yes; county, no; Oregon State Police, no; citizen, abstained. The proposal failed. The taxi issue was reconsidered with the stipulation the taxi would be allowed to use the HOV lane with a fare. That vote then followed: DEQ, no; Tri-Met, abstained; city planning, yes; city traffic, yes; county, yes; Oregon State Police, yes; citizens, yes.

The TAC considered the use of motorcycles. After a minimum of discussion (after last week's lengthy discussion) the committee voted: DEQ, no; Tri-Met, no; county, no; city planning, no; city traffic, no; citizens, no; Oregon State Police, no.

The TAC considered two-hour restriction for the HOVL. The charting of fifteen-minute volumes and speeds was reviewed. Discussion followed the lead time required to initiate the HOV lane, the transition time required to initiate the HOV lane, the 55 m.p.h. speed, the time when the freeway congests to the point where the 55 m.p.h. speed is limited, and the affect upon marketing. Considerable discussion pursued the indicator shown by the plotting of fifteen-minute speeds and volumes. The TAC voted: DEQ, no; Tri-Met, no; county, no; city planning, no; city traffic, no; citizen, no; Oregon State Police, abstained.

Each of the members of the TAC will submit justifications for their vote to Jerry Street. Jerry will assemble these plus improve upon the graphics used to depict the traffic volumes and speeds during the peak hours. The plots need to be extended during the full, four-hour period under consideration--six to ten in the morning, and three to seven in the afternoon. Also, the plotting needs to be accomplished so the traffic volume plots occur in the center of the period under consideration, as opposed to a trailing count. This should also be reviewed for the speed to be sure the speed count and the volume count are plotted at corresponding intervals. Jerry will assemble this data, plus the recommendations from the TAC, plus his own recommendations, and submit it to me to arrive no later than May 12, in order to allow preparation time for the commission meeting on May 17.

ehg

#2259

STATE OF OREGON

INTEROFFICE MEMO

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TO: JERRY STREET
Resident Engineer

DATE: May 3, 1977

FROM: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: HOV lane TAC meeting
April 28, 1977

At the subject meeting for the Banfield project, the committee consensus was to attempt additional incentives to attract use of the HOV lane, as opposed to opening up the lane to two-car carpools to gain additional use of the restricted lanes.

Several areas were discussed, including bus ridership. Tri-Met representatives indicated they were reviewing ridership demands and needed to complete their sensitivity analysis to consider additional routes in the Banfield that would use the HOV lane.

Considerable discussion pursued additional incentives for the carpool program. Included in this area were additional park-and-ride stations in East County, and in particular the new drive-in theater which is part of their indirect-source permit--as a park-and-ride station during the day. The other major incentive to carpooling is the downtown parking incentive program which provides parking for carpoolers on-street, in private areas, and in public facilities.

I believe several of these incentives have been discussed in your committee at previous meetings. My concern is that discussion is not producing results.

I would like to convey the position of the TAC committee to the Tri-Met General Manager, Tom King, in the form of a letter advising him that consensus was to provide additional incentives for carpooling and bus ridership, as opposed to opening up the HOV lanes to two-occupant carpools, as well as decreasing the hours of restriction from three to two. More specifically, I would like you to draft a letter to me pointing out the specific recommendations of the TAC committee to provide additional incentives as outline above, which I can then submit as a formal request to Tri-Met to initiate.

Please rough draft such a report expeditiously in order to attempt to initiate some of these incentive-type programs during the last couple of months of the monitoring project, and perhaps see some initial results.

ebg

cc: F. B. Klaboe
H. S. Coulter

01-125-1387

26-1436
170

May 3, 1977
1005 S.E. 214th Ave.
Gresham, OR 97030

THE [illegible] PRO DE
C.C.I.D. - METRO
MAY 5 1977
FILE T/A

Mr. Jim McClure, Project Develop. Engineer
State Highway Division
Salem, Oregon

Dear Mr. McClure:

For sometime I have considered writing the State Highway Division about the controversy on the Banfield. Your name appeared in an Oregonian story on April 22, and because it sounds as if you are in on the decision-making process about the HOV, I am writing this to you.

It is unfortunate that the HOV has not received backing of the newspapers in the area. I see only the Oregonian and the Gresham Outlook, but until a recent Marly Deane column in the former, very few if any favorable comments have been made. It is interesting that letters to the editor against the lane are always written by individuals who are driving alone in a car and are mad because they are denied the use of the fast lane. It doesn't seem to occur to them that they are losing both time and money by driving instead of taking the bus down the freeway. Lee Irwin, editor of the Outlook is one of the most rabid anti-HOV individuals - but he is a hedonist always. If anything interferes with his "dmithers", it has got to be wrong. It is odd, and unfortunate, that as the editor of the only weekly in this area he seems unable to place community good above his personal petty view.

As a confirmed bus rider, both because it saved money and because it helps prevent further pollution of the air, I urge you not to let the HOV lanes be usurped by those persons too pigheaded to try mass transit. Last Thursday the air pollution in the Portland area was unbelievable - by afternoon it had spread east maybe as far as Sandy. It is appalling that people living here do not realize how this is worsening year by year, and that one of the best ways to cut down on its growth is to increase mass transit use.

Lee Irwin wrote often and nastily about the Mult. Kennel Club park and ride station - until the number of cars parked there became so many that he would be ridiculous to complain. Now last week he recounted the trouble of taking a bus into Portland and the time wasted. He said he could drive it in 20 minutes and the bus took an hour or so. We'd like to know how he could drive it in 20 minutes (including getting to the office he was headed for), but we wonder, too, what he expects - Tri-Met to supply him with door-to-door service?

I surely agree with the state technical advisory committee that opening the HOV lanes to all traffic would make it impossible to again restrict them. Making it legal to drive there with 3 persons per vehicle might be helpful - but opening it to certain types of vehicles (someone had suggested pickups) would not be fair - especially if those vehicles (trucks and pickups) are heavy gas users. That would certainly defeat the purpose of cutting air pollution.

At all costs (literal and figurative), keeping a faster lane for those carpooling or taking mass transit should be furthered.

Sincerely,

Carol Brookhyser

Carol Brookhyser

6259

April 28, 1977

bc H. S. Coulter
R. L. Schroeder (enc.)
R. N. Bothman (enc.)
G. A. Potter "
Bud George

Mr. Glen L. Green
Division Administrator
Federal Highway Administration
Box 300
Salem, OR 97308

Dear Mr. Green:

U.S. DOT Project FH-11-9127
Air Quality Monitoring on Banfield HOV Lanes

Pursuant to your letter of January 10, 1977, the following information is attached:

1. Two copies of the list of carbon monoxide sampling sites.

2. Two copies of a map showing the location of the carbon monoxide sampling sites.

On March 1, 1977, three monitoring sites were moved from 21st and Broadway, 22nd and Burnside, and 20th and Sandy to 1204 N. E. 53rd Avenue, 4403 N. E. Royal Court, and 129 N. E. 24th near Davis Street. The relocation of these sites was initiated to obtain more comprehensive background data in the Banfield Corridor. At the time of the move, the sampling schedule for CO at all sites was changed to be carried out daily, Monday through Friday, with monitors in operation from 12 noon to 12 midnight. Except for M.P. 1.46 and 47th and Banfield, the sampling time changes at these two sites had already been made on December 21, 1976. The daily sampling times were changed at all sites to cover the peak hours of CO concentrations.

We have received written concurrence of the changes in sampling sites and sampling times from the Oregon Department of Environmental Quality.

Very truly yours,

E. S. Hunter
Deputy State Highway Engineer

Attachments

GAP:BDM:ss ja

CO SAMPLING SITES
in the
BANFIELD CORRIDOR

Location	DEQ's SAROAD Site Number	Date Site Occupied	Date Site Abandoned
Banfield at 47th Avenue	002	10-01-75	
N.E. 19th & Multnomah	003	10-01-75	
Banfield at M.P. 1.46	004	10-01-75	
20th & Sandy	005	10-01-75	02-28-77
N.E. 22nd & Burnside	006	10-01-75	02-28-77
21st & Broadway	007	10-01-75	02-28-77
1204 N.E. 53rd Avenue	*	03-01-77	
4403 N.E. Royal Court	*	03-01-77	
129 N.E. 24th near Davis St.	*	03-01-77	

*These sites have not received their SAROAD site numbers from DEQ as of this date (-4-22-77).

CARBON MONOXIDE MONITOR

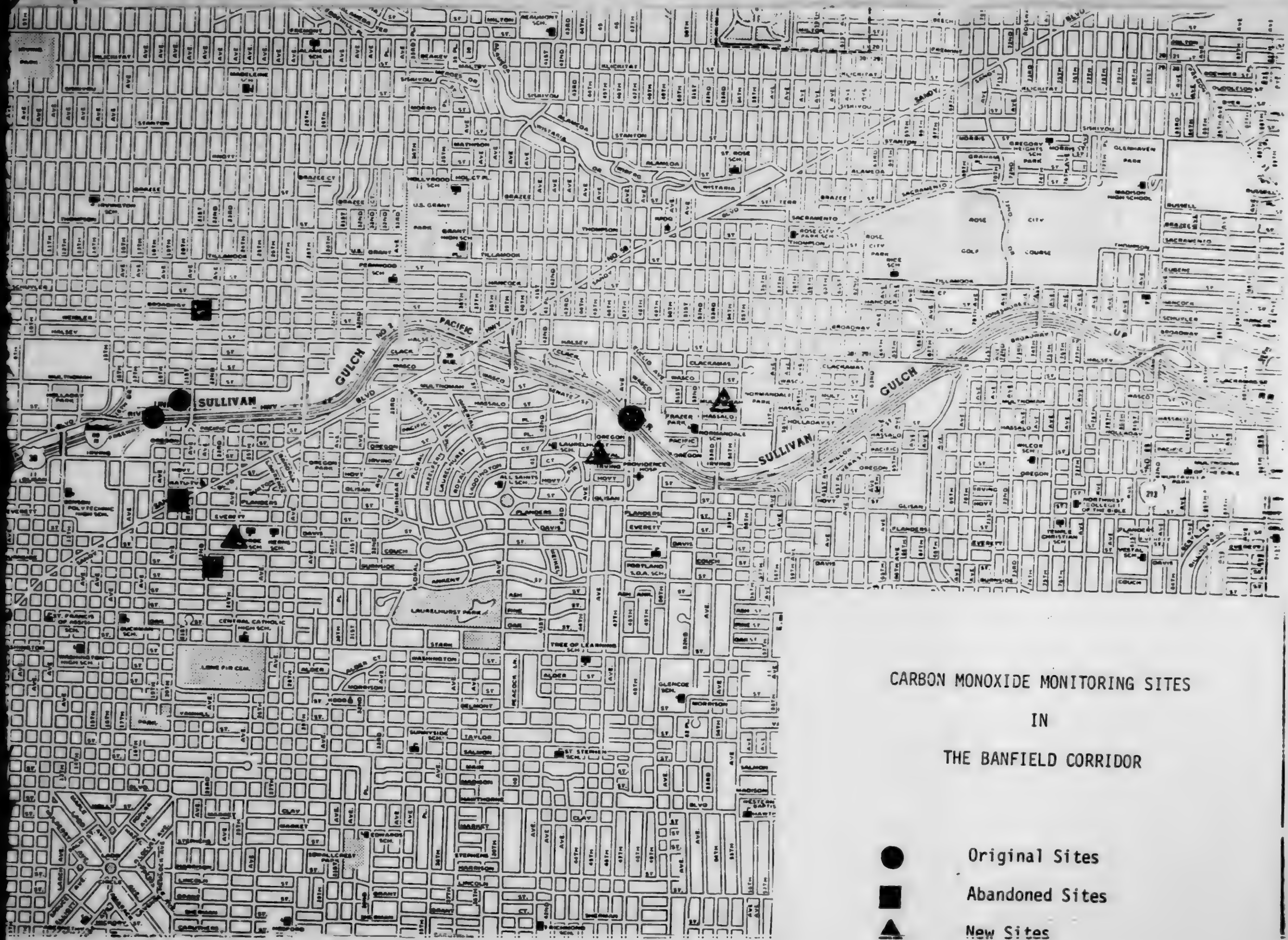
IN

THE BANFIELD CORRI

Original Sites

Abandoned Sites

New Sites


CARBON MONOXIDE MONITORING SITES
IN
THE BANFIELD CORRIDOR
Original Sites
Abandoned Sites
New Sites
SULLIVAN GULCH
PACIFIC HWY
SULLIVAN
GULCH
BLVD
LAURELHURST PARK
LONG FIR CEM.
ROSE CITY GOLF COURSE
U.S. GRANT PARK
GLENHAVEN PARK
GREGORY HEIGHTS SCH PARK
FRAZER PARK
NORMANDALE PARK

Form FHWA 111 (Rev. 8-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: January 10, 1977

In reply refer to: 1041EC.2

SUBJECT: U. S. DOT Project FH-11-9127
Air Quality Monitoring on Banfield HOV Lanes

FROM: G. L. Green, Division Administrator

TO: Mr. H. Scott Coulter, State Highway Engineer
Salem, Oregon

We have reviewed the proposal to change the location of three of the "grab bag" samplers as described in Mr. Hunter's December 29 letter and have no objection to this move. You may proceed as requested.

Please supply this office with two copies of a sketch showing the old and new location of this equipment. One copy will be sent to Mr. Bissell in our Washington, D.C. office.

G. L. Green

cc:
Wash DC (HRS-33 Howie Bissell) w/att

RECEIVED
STATE HWY ENGR
JAN 12 '77
REFER TO
Patten
FOR
Info | Inves | R/D | D/R | Sign | Act | File

cy Schneider
Bottsman
Sub George
1-12-77

RECEIVED
ENVIRONMENTAL
SECTION
JAN 1[illegible] 1977
Referred to Pete - file

Department of Transportation

METROPOLITAN SECTION

5821 N.E. GLISAN, PORTLAND, OREGON 97213

Telephone 238-8226

ROBERT W. STRAUB
GOVERNOR

April 26, 1977

SENATOR WALTER F. BROWN
Room S-309
State Capitol Building
Salem, OR 97310

Your question at the hearing on Senate Bill 578 asked for the percentage of new persons on the Banfield Freeway during the 15-month,experimental, high-occupancy-vehicle (HOV) lane project who were using the HOV lanes, and those who were using the regular lanes.

Of the 28 per cent growth in people using the Banfield Freeway during the peak hour amounts to 3400 persons; 22 per cent, or 2600 persons are using the HOV lanes. The remaining growth of 6 per cent, representing 800 persons, has occurred in the two lanes that allow all autos.

Obviously, there has been some adjusting of persons from the regular auto lanes to the HOV lanes, but the overall growth is consistent with these figures.

I believe the point made by your question is that the growth during the last 15 months has substantially occurred in, and has been absorbed by, the HOV lanes. This provides benefit to all users, and more importantly, indicates a move towards the objectives of the project--to increase the people-carrying capacity of the freeway, fill the guidelines of the Oregon Clean Air Implementation Plan, and to increase fuel efficiency.

ROBERT N. BOTHMAN
Ass't. State Highway Engineer

ebg

RECEIVED
DOT OPERATIONS
APR 29 '77
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

ME PE PR1 PR2 DE
C.C.I.D. - METRO
APR 2 5 1977
FILE T/A

NOA

HEARD

Verbatim transcript of 4-19-77 Commission meeting re HOV Banfield Lanes.

JACKSON:

One more thing we want to talk about. We have got these HOV lanes on the Banfield that has been a headache to everybody involved in the thing. The Commission feels that the experimental stage on the present standards has been completed because traffic insofar as the use of the lanes is pretty static now - it has come to a static point.

The experiment is suppose to end in July. We want to request CRAG to change the standards again to allow taxi or cab use of the HOV lanes, reduce the number of passengers required from three to two, and to adjust the hours again from three to two - two in the morning and 2 at night.

Now this is a joint project under CRAG and we ask the Department to immediately take steps to get CRAG to take another look at this thing. This is the opinion of the Commission that we have gone far enough with the present experiment.

BRIX:

Mr. Chairman, if the Commission would go along - I would be a little stronger and ask that they do it unless they - with our very strong recommendation unless they have some very good reasons that they feel it is not feasible and we would like those reasons prior to the next Commission meeting. Otherwise, just go ahead and do it.

JACKSON:

Start off with a positive that we will adopt; then if we start an argument why we can jockey from that point. Let's get the thing done.

April 18, 1977

...surance Co.

...ent:

On April 8, 1977, we wrote to you concerning ...lease of final payment on Contract No. 8259 awarded to ... F. Jacobsen & Co., Inc. for work on the N.E. Union Avenue-N.E. 82nd Avenue Section of the Columbia River Highway in Multnomah County.

Final payment on this contract is $62.14 and the total contract amount is $1,822,157.22 including $44,939.89 for work performed under force account.

Very truly yours,

C. W. Read
COMMISSION SERVICES

dda

cc K. F. Jacobsen & Co., Inc.
2611 S.E. Fourth Avenue
Portland, OR 97202

Victor S. Risley Co.
804 Board of Trade Bldg.
Portland, OR 97204

bc C. T. Keasey
Walt Hart - Bridge
V. E. Skoog Attn: Dick Hacek
Region I Engineer

WALSH: It was purely a cooperative venture when we asked last Fall if they would take a look at it and boy, they just about - they did all the looking they could. They reduced it from four hours to three hours and that was it. It's a State Highway. It's a facility over which we have obvious responsibility and control and it would be - my thoughts Pete if there is opposition to changes that Glenn has suggested this morning -

BRIX: Let's have justification.

WALSH: The Commission then ought to be - then if that modification and the experiment is not acceptable to the other parties, then we ought to simply deem the experiment to be over and open the lanes back up. It is hard to justify the continuation of the experiment with the current restrictions.

BRIX: In its present structure -

WALSH: The uses have now leveled off. We know everything we are going to know from the experiment and if we are going to continue to use that HOV lanes for experimental purposes which is justified then we ought to alter the -

JACKSON: You heard what the man said.

COULTER: I heard what you said. I'll come back either with reasons, not excuses, or actions.

JACKSON: Okay.

8259

April 18, 1977

St. Paul Fire & Marine Insurance Co.
500 N.E. Multnomah
Portland, OR 97232

Gentlemen:

On April 8, 1977, we wrote to you concerning release of final payment on Contract No. 8259 awarded to K. F. Jacobsen & Co., Inc. for work on the N.E. Union Avenue-N.E. 82nd Avenue Section of the Columbia River Highway in Multnomah County.

Final payment on this contract is $62.14 and the total contract amount is $1,822,157.22 including $44,939.89 for work performed under force account.

Very truly yours,

C. W. Head
COMMISSION SERVICES

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Walt Hart - Bridge
V. E. Skoog Attn: Dick Hacek
Region I Engineer

4-15-77

OREGON DEPARTMENT OF TRANSPORTATION

HOV LANE PROJECT

QUARTERLY REPORT

METROPOLITAN DIVISION

APRIL
15
1977

NOTED
C. D. KLEIN

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INTRODUCTION

This quarterly report summarizes what has occurred regarding the Banfield Freeway Preferential Lanes for High Occupancy Vehicles Demonstration Project during the first quarter of 1977. Included in Chapter I narrative section find a brief discussion of the statistical results of the monitoring effort to date after 15 months of operation of the Banfield HOV Lanes. Some evaluations of this data are made regarding how well this project is working to reduce traffic congestion in the Portland area. A summary of the winter quarters work is given in Chapter II. Included is a synopsis of some of the items considered by the Banfield Technical Advisory Committee during this quarter. This Committee is charged with the responsibility of monitoring the project. Also include are the final results of the commuter survey taken in November of 1976. This was a survey taken of persons riding in vehicles using the Banfield Freeway during peak rush hours. Additional data to be included in the project procedure manual for monitoring the various tasks is introduced in the Appendices. Again, the ongoing graphing is included in the Appendices.

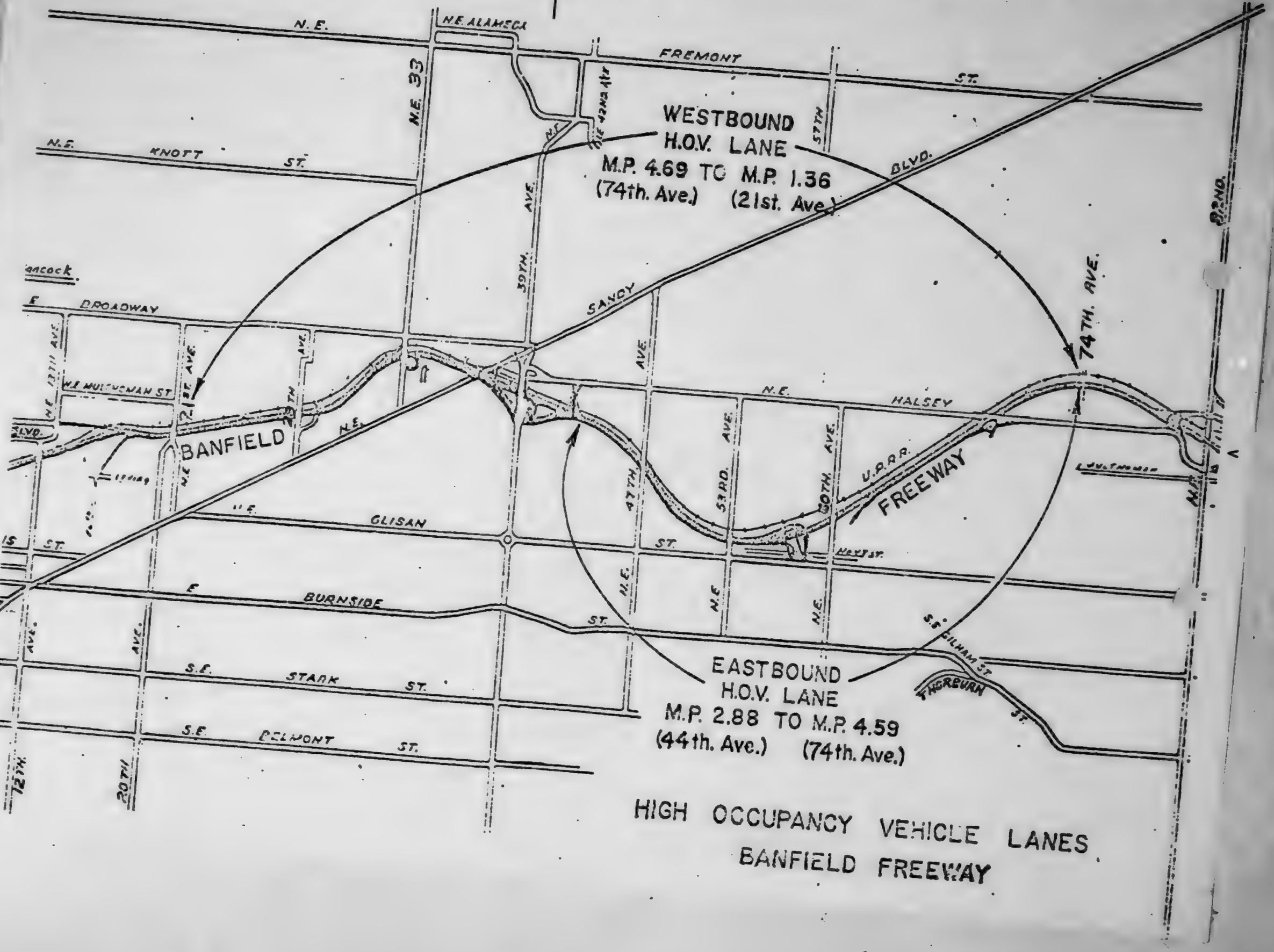
HISTORICAL OVERVIEW

The Banfield Freeway preferential lanes, or hereafter called the HOV lanes (High Occupancy Vehicle) were opened for use on December 15, 1975. They were conceived in January, 1975, when the Oregon State Highway Division proposed them to the

City of Portland and Tri-Met Transit District. The demonstration project was of experimental design to relieve peak hour traffic congestion by adding an additional lane for 3 person carpools and buses only. It would encourage a shift to these modes from single occupancy vehicles. It also afforded a chance to test the HOV lane concept on an established freeway and to set a precedent for future transportation innovations. Because the lanes were added to an existing facility the impact was minimized on the single or double occupant vehicles using the freeway. The location of these lanes are shown on a map of the area on page v. The lanes were originally reserved for HOV 24 hours per day but have since had the times revised so that today they are only reserved from 6:30 to 9:30 A.M., westbound peak rush, and 3:30 to 6:30 P.M., eastbound peak rush. These revisions helped quiet some early criticism of the project regarding the lack of vehicles in the HOV lanes during non-peak rush hours.

DEMONSTRATION PROJECT OBJECTIVES

The objectives of the Banfield HOV lane project were to increase the people-carrying capacity of the freeway in peak rush hours to help fulfill guidelines of the Oregon Clean Air Implementation Plan and to help commuters use fuel efficiently by increasing the number of persons in each vehicle. This is accomplished by offering the HOV lanes as an incentive for people to carpool and ride buses so that they realize a cost and time savings.



HIGH OCCUPANCY VEHICLE LANES
BANFIELD FREEWAY

CHAPTER I

EVALUATION OF HOV LANES

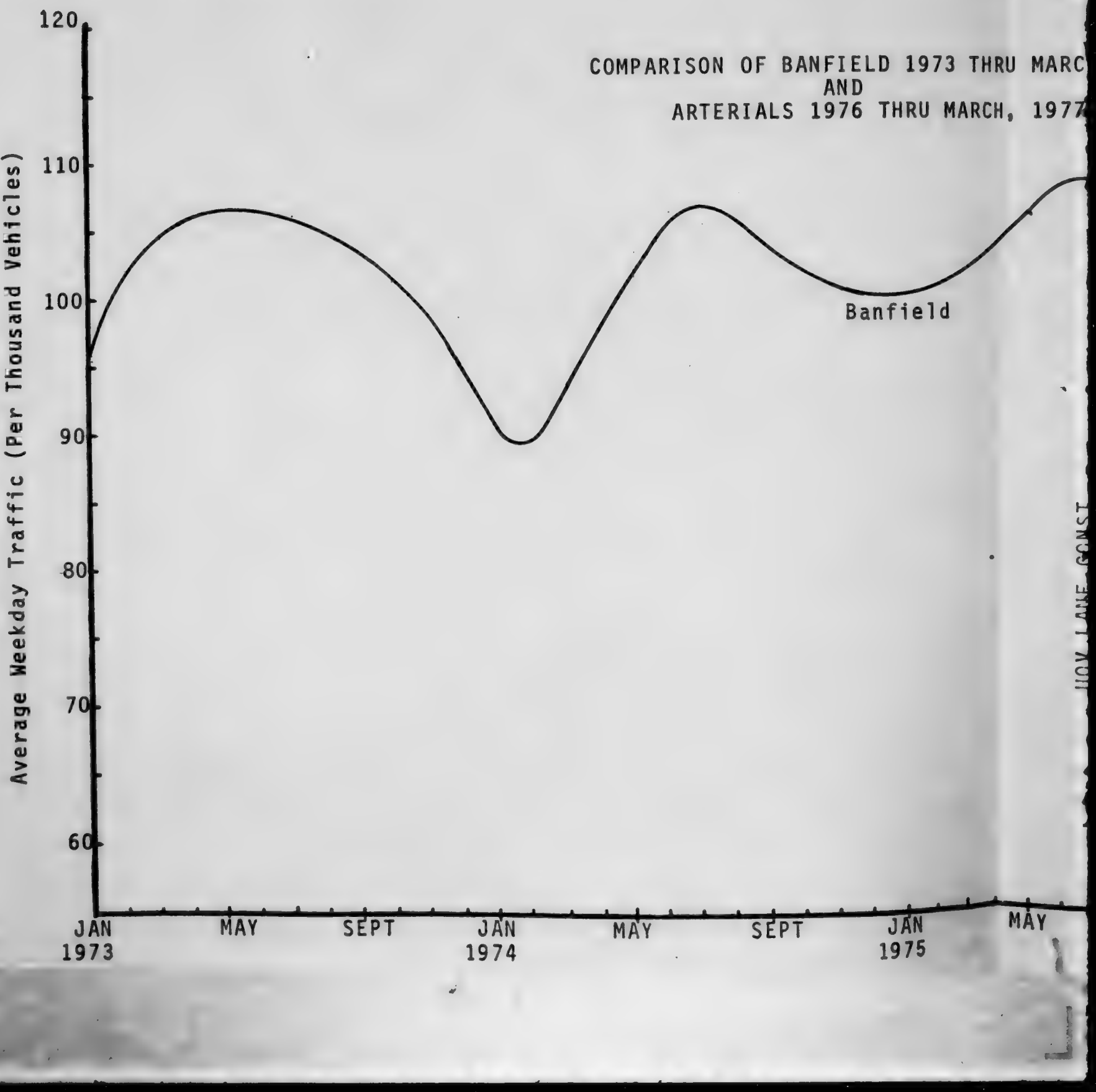
Statistical Data

This section gives a brief evaluation of the results of the monitoring ef

Lane Project. Various factors concerning traffic flow, bus ridership, ca

1. The average weekday traffic volumes on the Banfield Freeway have opened to traffic on December 15, 1975. However, it appears that 3 perce on the three arterial streets considered in the study have decreased by 3 Banfield Freeway is given for 1973 thru March 1977. The data for the thr

COMPARISON OF BANFIELD 1973 THRU MARC
AND
ARTERIALS 1976 THRU MARCH, 197



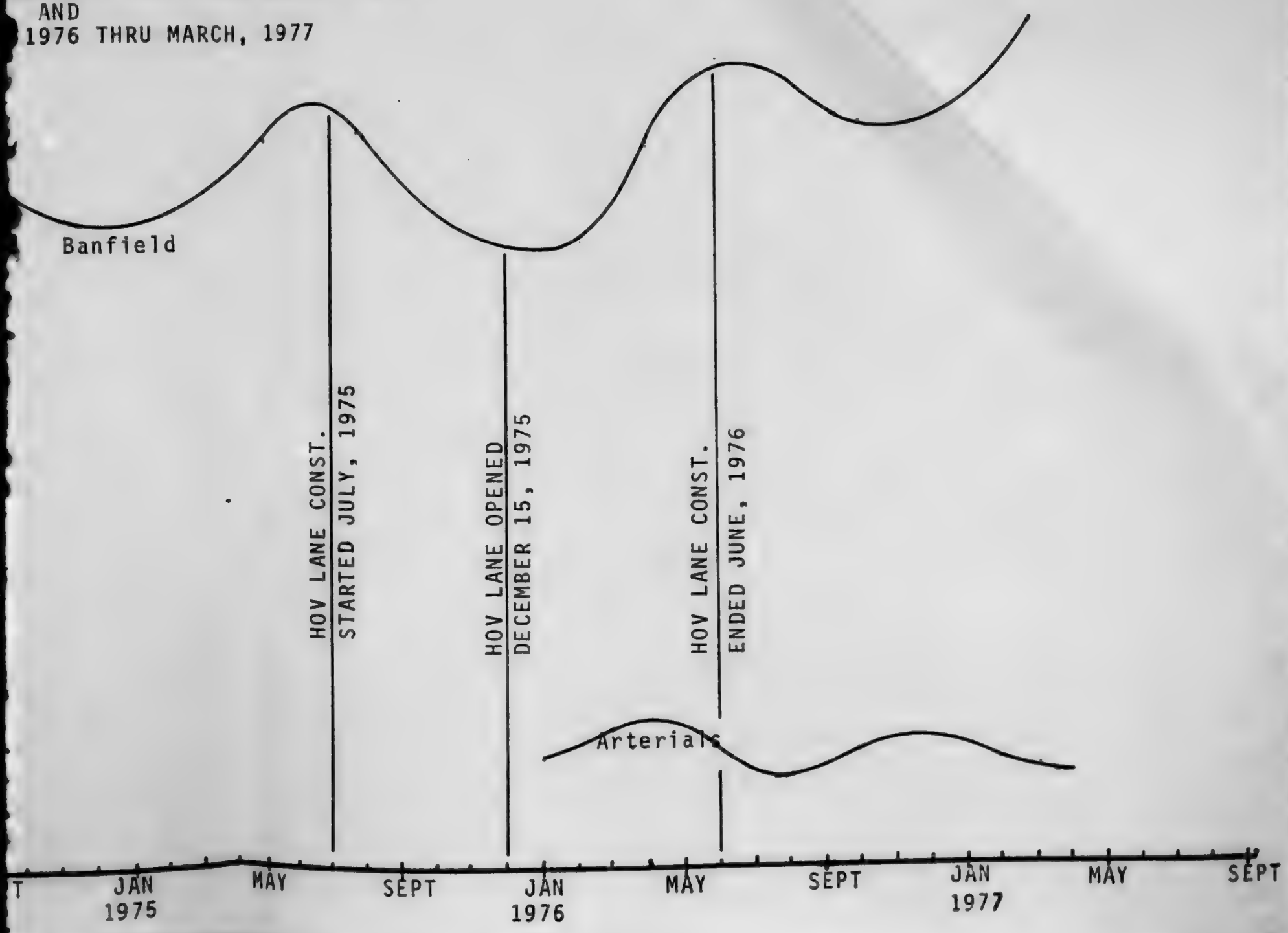
NES

of the monitoring effort after 15 months of operation of the Banfield HOV

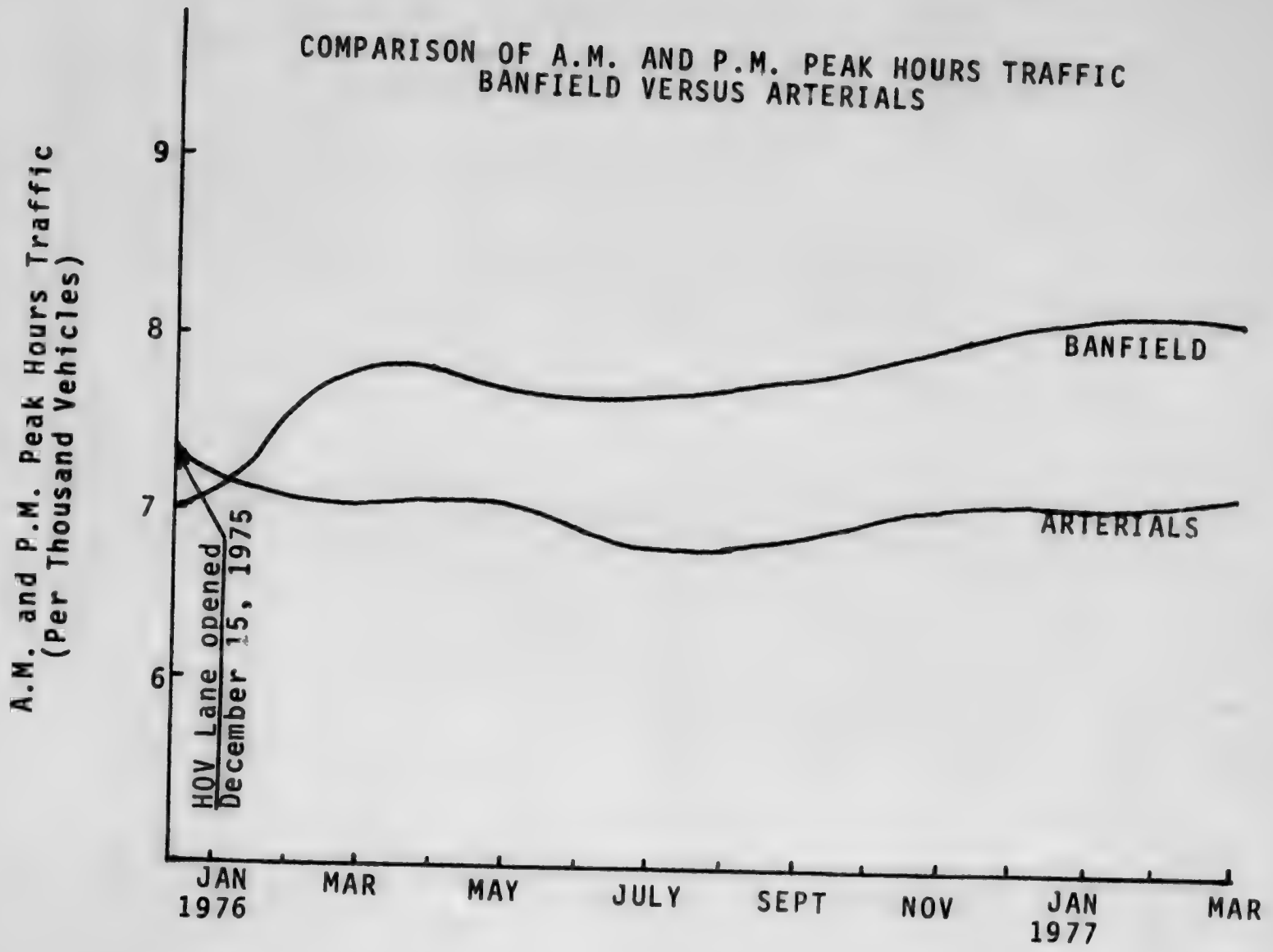
ow, bus ridership, carpools, accidents and air monitoring will be discussed.

Banfield Freeway have increased by 10 percent since the HOV Lanes were
appears that 3 percent is seasonal. The average weekday traffic volumes
y have decreased by 3 percent during the same time period. Data for the
The data for the three arterials prior to 1976 is not available.

ANFIELD 1973 THRU MARCH, 1977
AND
1976 THRU MARCH, 1977

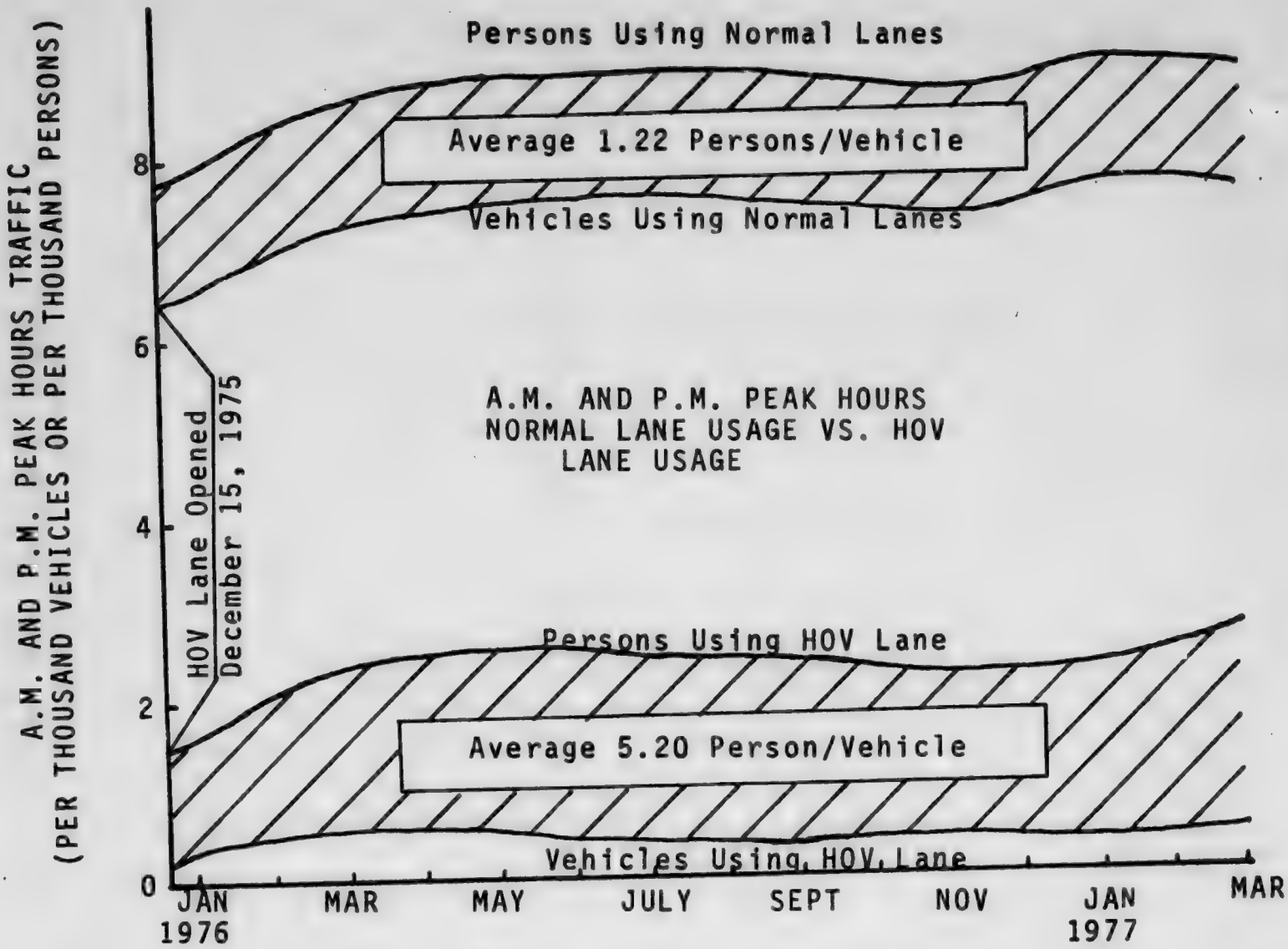


1b. The average weekday Peak Hour (7:00 to 8:00 A.M. and 4:30 to 5:30 P.M.) traffic volumes on the Banfield Freeway have increased by 12 percent since the HOV Lanes were opened to traffic on December 15, 1975. It is estimated that 3 percent of this increase is seasonal. The average weekday Peak Hour traffic volumes on the three arterials have decreased 3 percent during this same time period.



After 15 months of HOV Lane operation, the Banfield Freeway continues to be able to absorb additional growth in vehicles from the East County, while its three arterial streets have decreased in traffic volume.

2. During March of 1977 the HOV Lanes carried 1,133 persons in 210 autos and 16 buses Westbound during the A.M. peak rush hour and 1,328 persons in 236 autos and 17 buses Eastbound during the P.M. peak rush hour. This means the removal of 1,133 person in 930 vehicles from the normal lanes during the A.M. peak rush hour and the removal of 1,328 persons in 1090 vehicles from the normal lanes during the P.M. peak rush hour. (Assume an occupancy rate of 1.22 persons per vehicle.



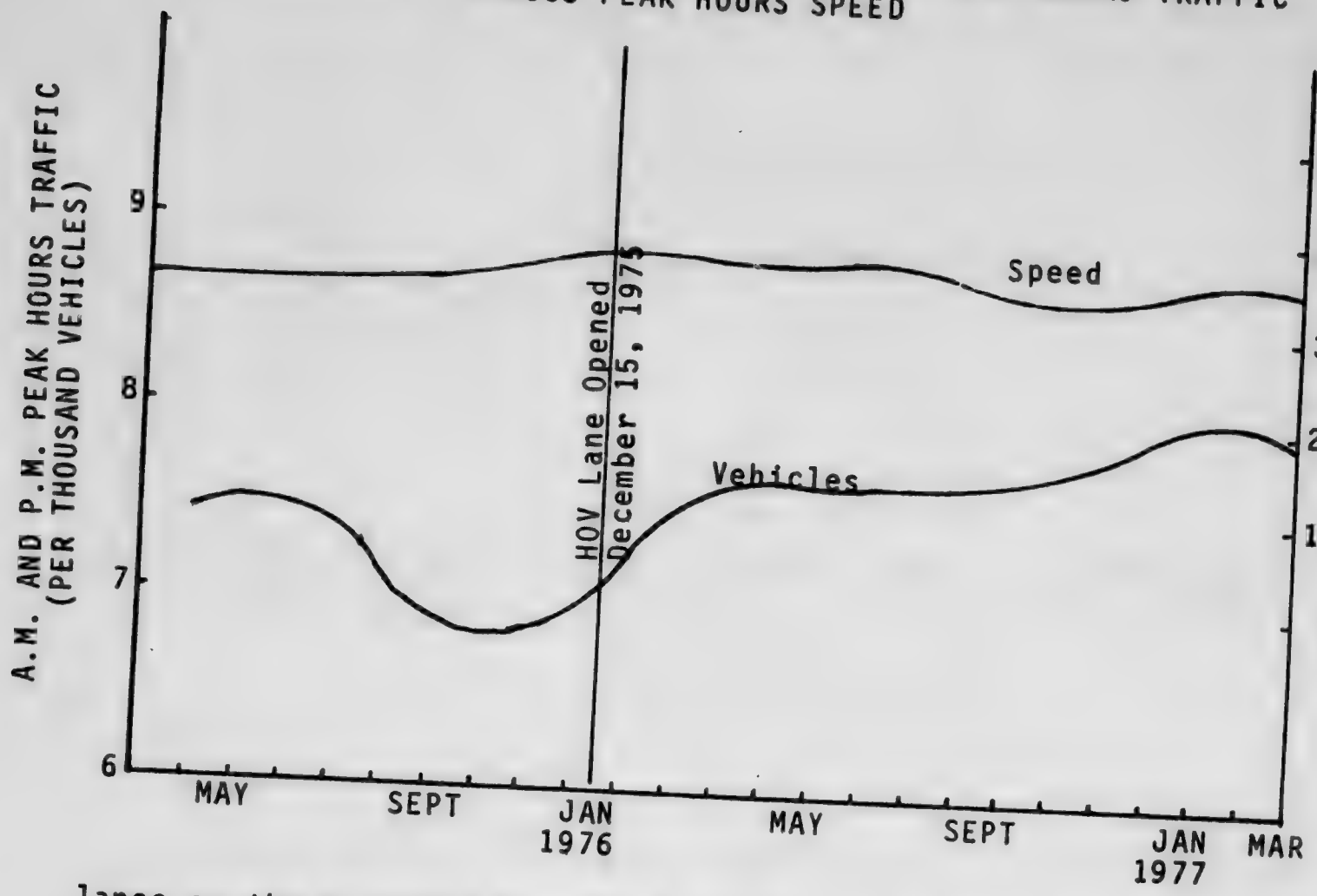
A.M. AND P.M. PEAK HOURS
NORMAL LANE USAGE VS. HOV
LANE USAGE

The lower graph includes HOV Lane violators which accounts for the sharp decline in HOV Lane vehicles between March and July of 1976. The number of violator vehicles decreased over 100 during this time period due to heavy police enforcement. These graphs indicate continued growth in both the normal lanes and the HOV Lanes.

The HOV Lanes are handling 20 percent of the persons using the Banfield Freeway during peak rush hours in 5 percent of the vehicles.

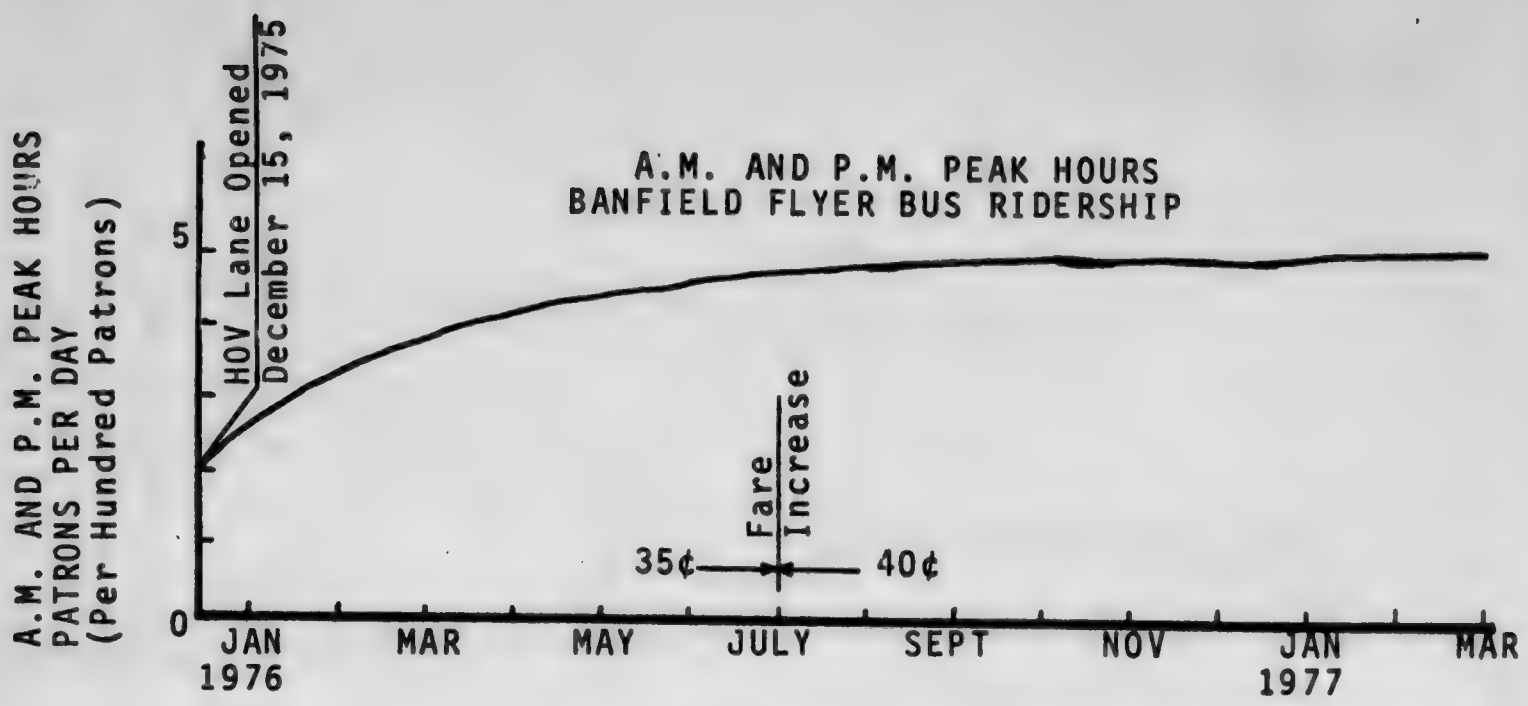
3. Speed inbound during the A.M. peak rush hour on the Banfield Freeway in March of 1977 averaged 36 MPH in the normal travel lanes, about 2 MPH less than the average speed in 1975. The speed in the inbound or Westbound HOV Lane was 48 MPH. Speeds outbound during the P.M. peak rush hour in March of 1977 averaged 33 MPH in the normal travel lanes, up 3 MPH from the average speed in 1975. The speed in the outbound or Eastbound HOV Lane was 40 MPH.

COMPARISON OF BANFIELD A.M. AND P.M. PEAK HOURS TRAFFIC VERSUS PEAK HOURS SPEED



lanes on the Banfield Freeway during March of 1977 are about the same as in 1975 despite an increase of from 8 to 12 percent in peak hour vehicle volumes.

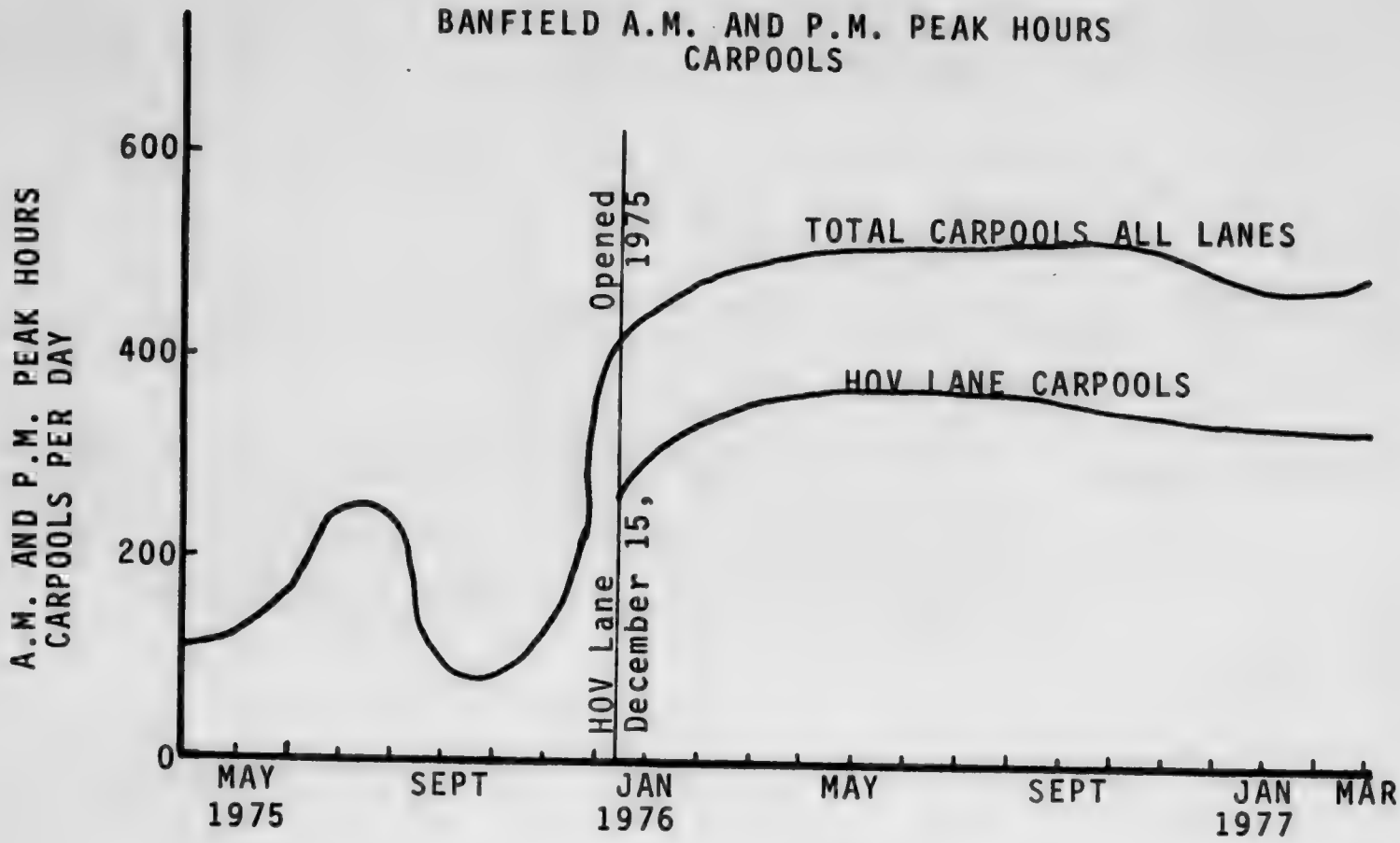
4. The ridership on the ten express Banfield Flyer buses has increased from 300 patrons a day during the first full month of operation in January of 1976 to over 525 patrons a day during March of 1977.



<u>The Banfield Flyer buses continue to steadily increase ridership.</u>

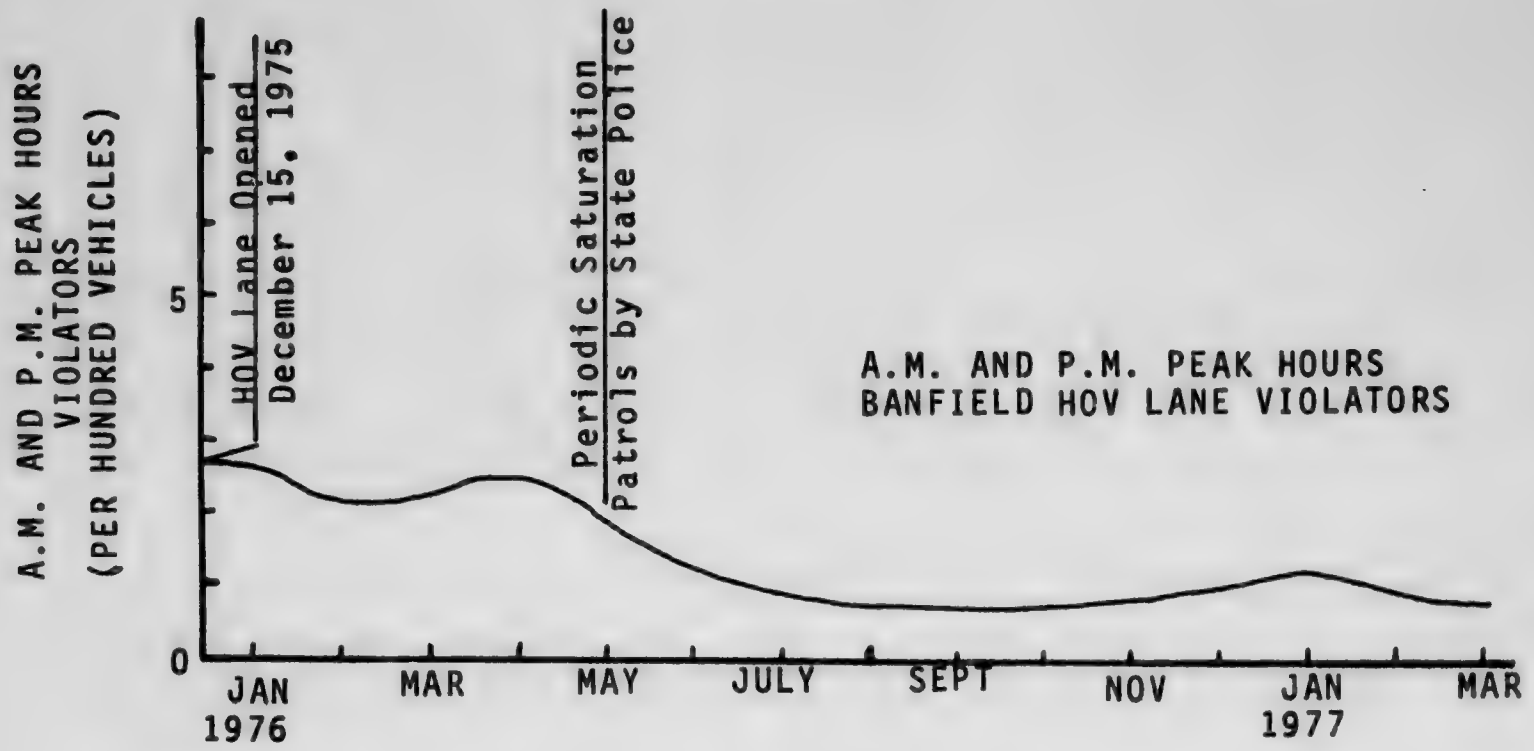
5. The average number of carpools using the Banfield Freeway daily during the peak A.M. and P.M. rush hours in April of 1975 was 106. The average number of carpools using the Banfield Freeway daily during March of 1977 was 525. Of this total for March of 1977, 377 carpools were in the HOV Lane at 47th Avenue counting station. It is felt that due to the close proximity of the 58th Avenue on-ramp and the 42nd off-ramp, a number of Westbound A.M. carpools were not counted in the HOV Lane due to either not having enough time to merge over to the HOV Lane, or having already left the HOV Lane for the exit. In addition, due to the difficulties encountered by Eastbound P.M. carpools attempting to merge over to the HOV Lanes near 44th Avenue and due to the close proximity of the 57th Avenue on-ramp, a number of Eastbound carpools are not in the HOV Lanes by the 47th Avenue counting station. Therefore, our previous standard of graphing only HOV Lane carpools will be modified to include all carpools in all lanes.

BANFIELD A.M. AND P.M. PEAK HOURS
CARPOOLS



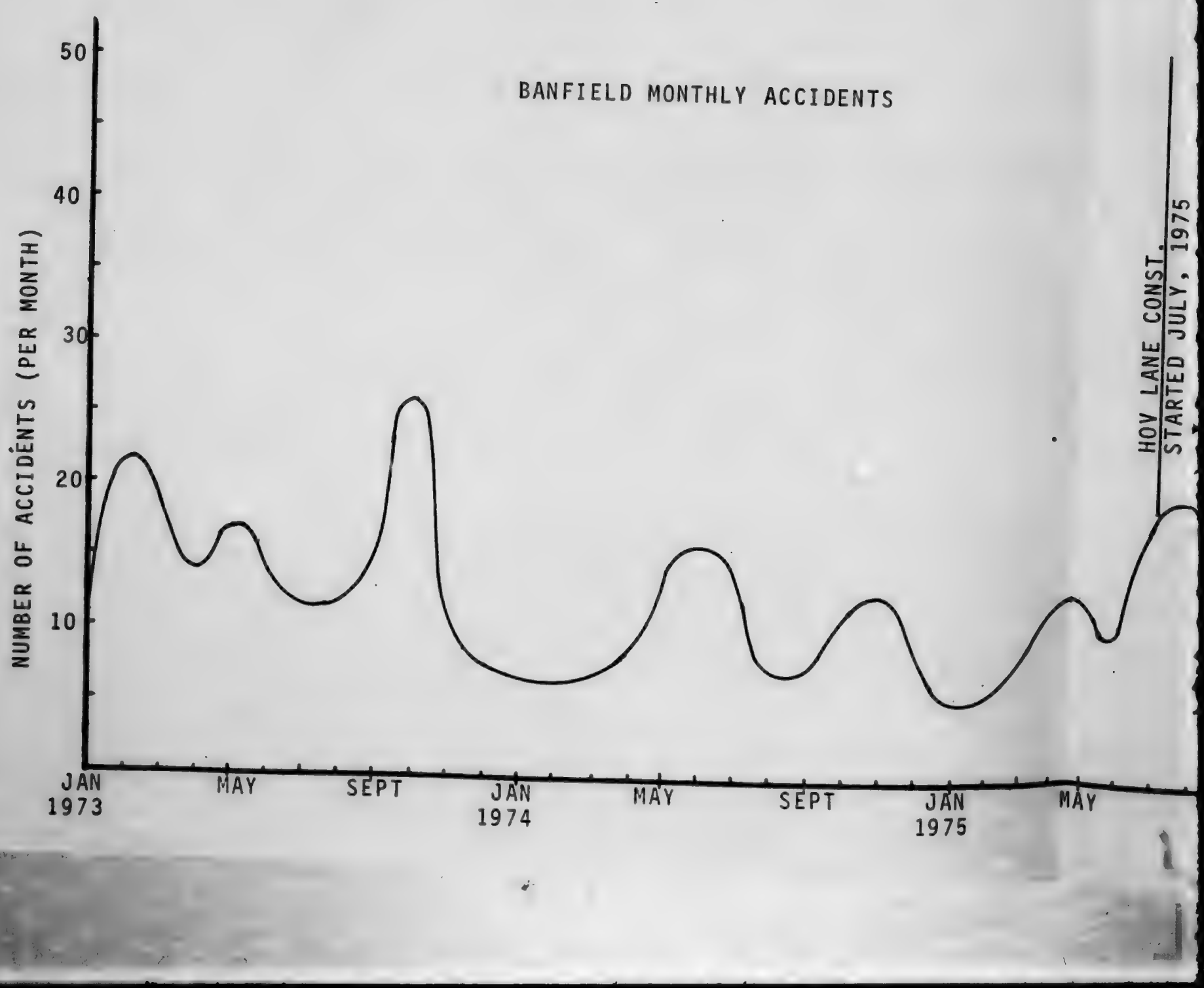
The HOV Lane Project encouraged an initial growth of 275 carpools daily, counting all lanes, during the Peak A.M. and P.M. Rush Hour period.

6. The daily number of Peak Hour HOV Lane violators per month have been reduce from an average of 250 violators per day during January thru April of 1976 to 70 violators during March of 1977. The daily number of violators increased to over 110 in January 1977 due to a week of severe winter weather which curtailed enforcement by the State Police. However periodic saturation patrols in the latter half of January reduce the level of violators to acceptable numbers.

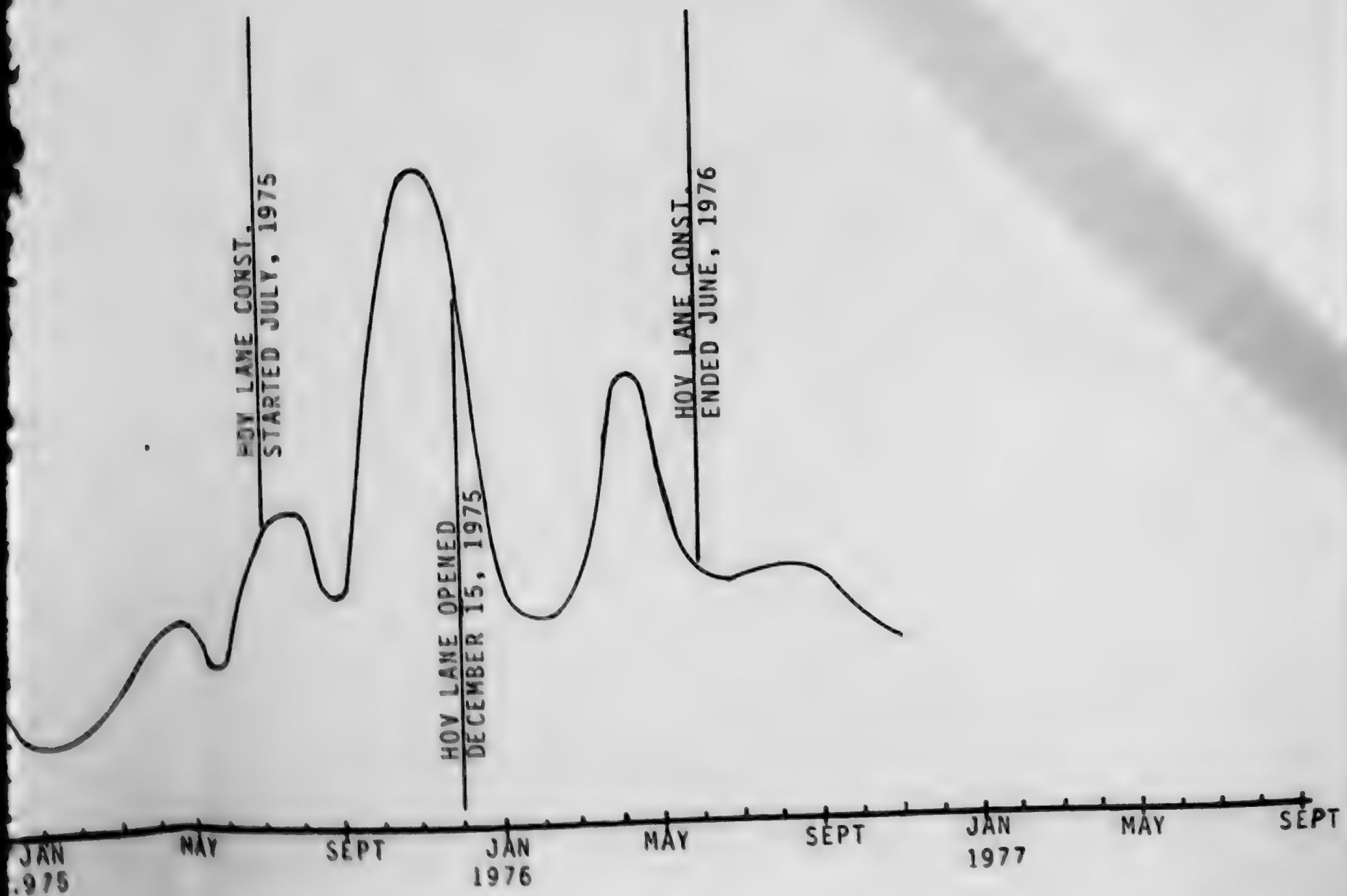


The HOV Lane Violation rate is 15.5 percent of the number of vehicles using the HOV Lanes, and Less than 1.0 percent of the number of vehicles using all the Banfield Lanes.

7a. The monthly number of recorded accidents on the Banfield Freeway a
July and November of 1976. Later accident data is not available at this tim
between July, 1975 and June, 1976. Since construction has a significant inf
is not appropriate to compare post-HOV Lane data to pre-HOV Lane data during
average monthly number of recorded accidents between July and November of 19
yields respectively, 14 and 11 accidents per month. This compares favorably
Lane time period) if you take into account the 7 percent increase in traffic
that time.



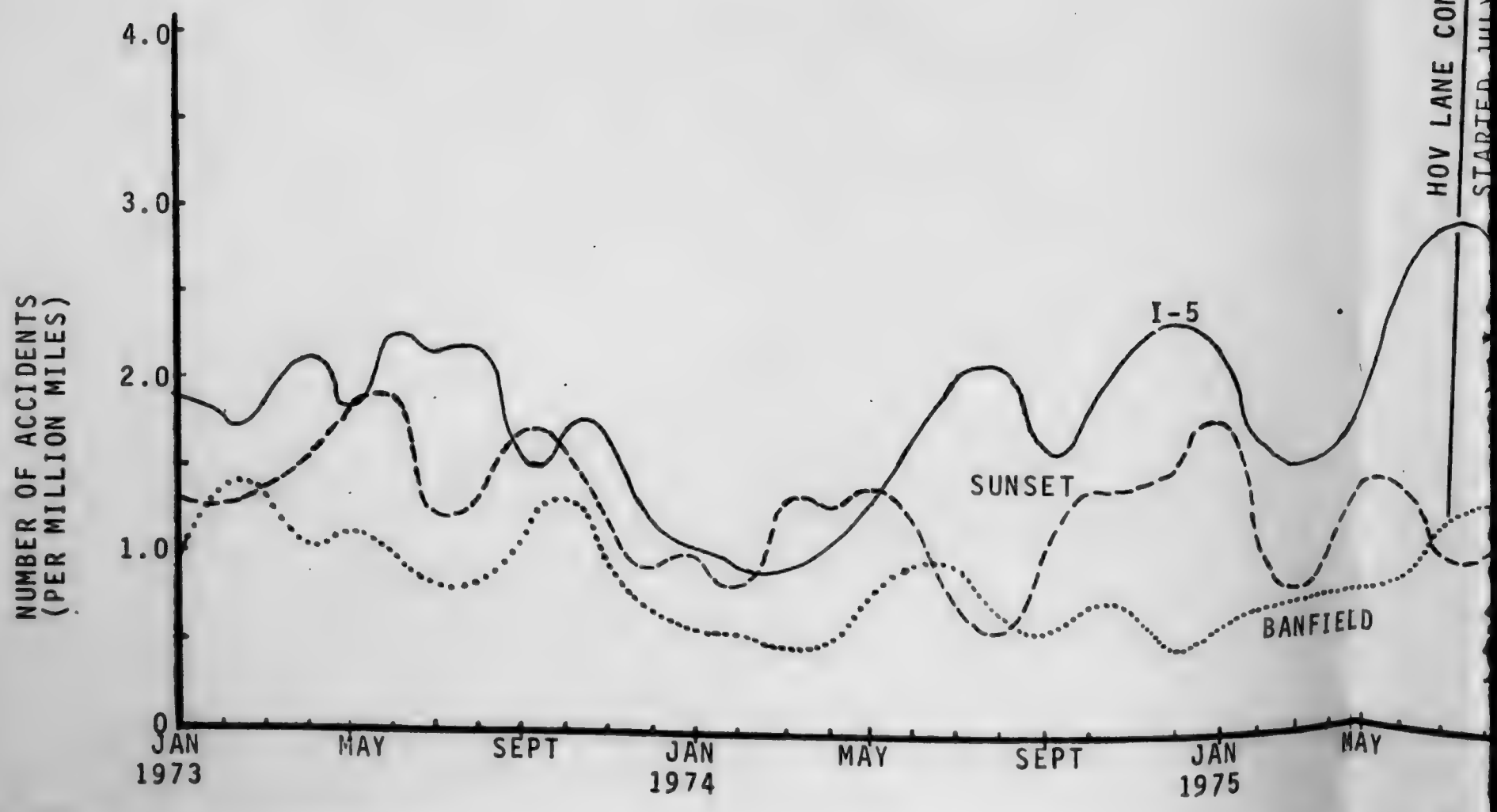
ield Freeway averaged 15 accidents per month between
e at this time. The HOV Lanes were constructed
ignificant influence on the number of accidents, it
ne data during this time period. Comparing the
November of 1973 and 1974 (pre-HOV Lane time period)
pares favorably to the same period in 1976 (post-HOV
ease in traffic volumes which have occurred since



7b. The monthly number of recorded accidents on the Banfield Freeway
December 15, 1975 and after the completion of construction in June of 1976
Freeways. The graph below indicates very little change in the position of
after the HOV Lanes were opened. The Sunset Freeway is Portland's other ma
involves a section of highway 5 miles long. The I-5 Freeway is Portland's
section is a 5 mile piece of highway north of the CBD. The Banfield study
the Banfield and I-5 AWT are similar, and the Sunset AWT is 20 percent less
study areas.

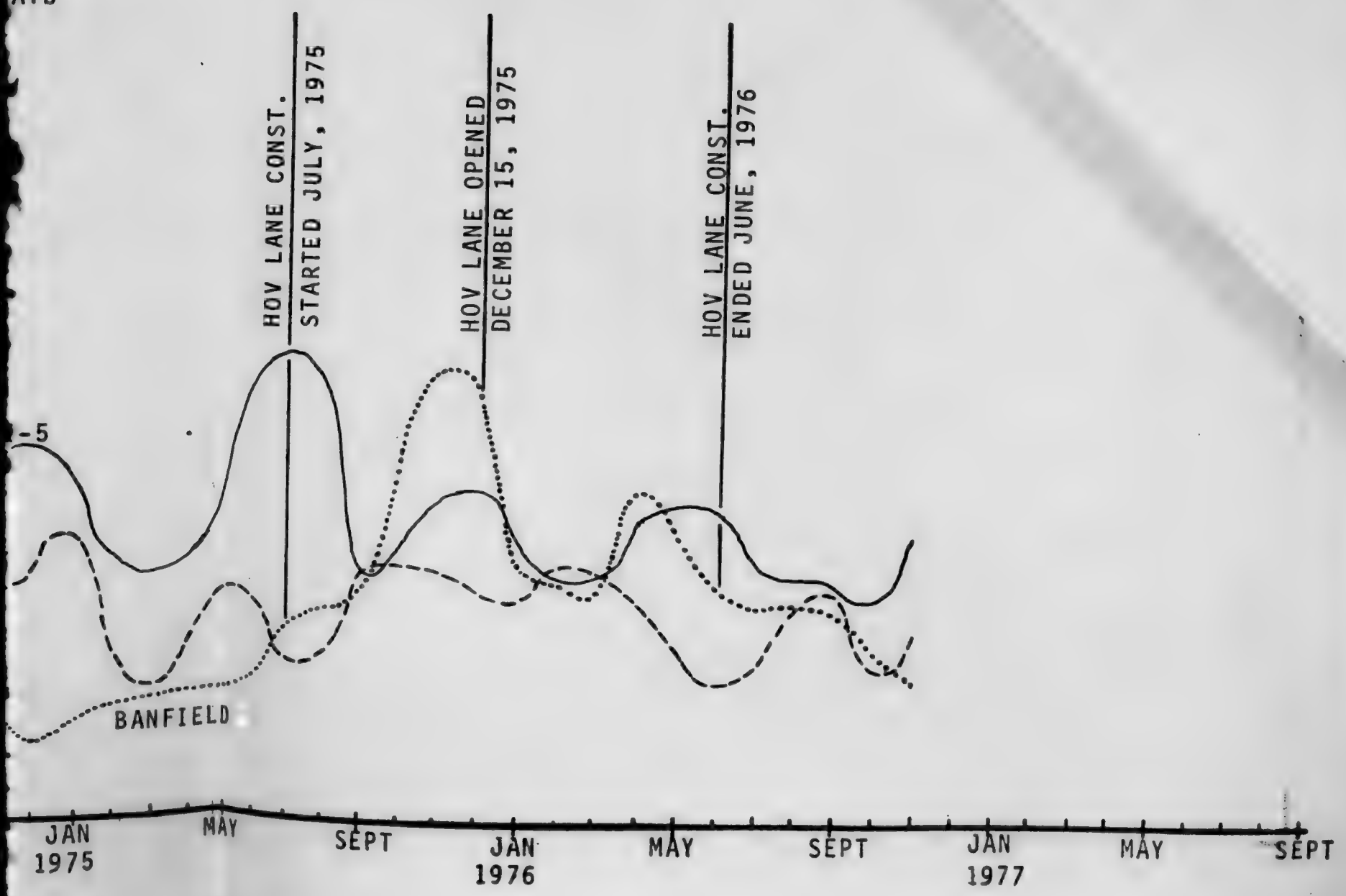
Disregarding the construction months of July 1975 thru June 1976, the month
Freeway are near pre-HOV Lane levels.

COMPARISON OF ACCIDENTS PER MILLION MILES
ON BANFIELD, SUNSET, AND I-5 FREEWAYS



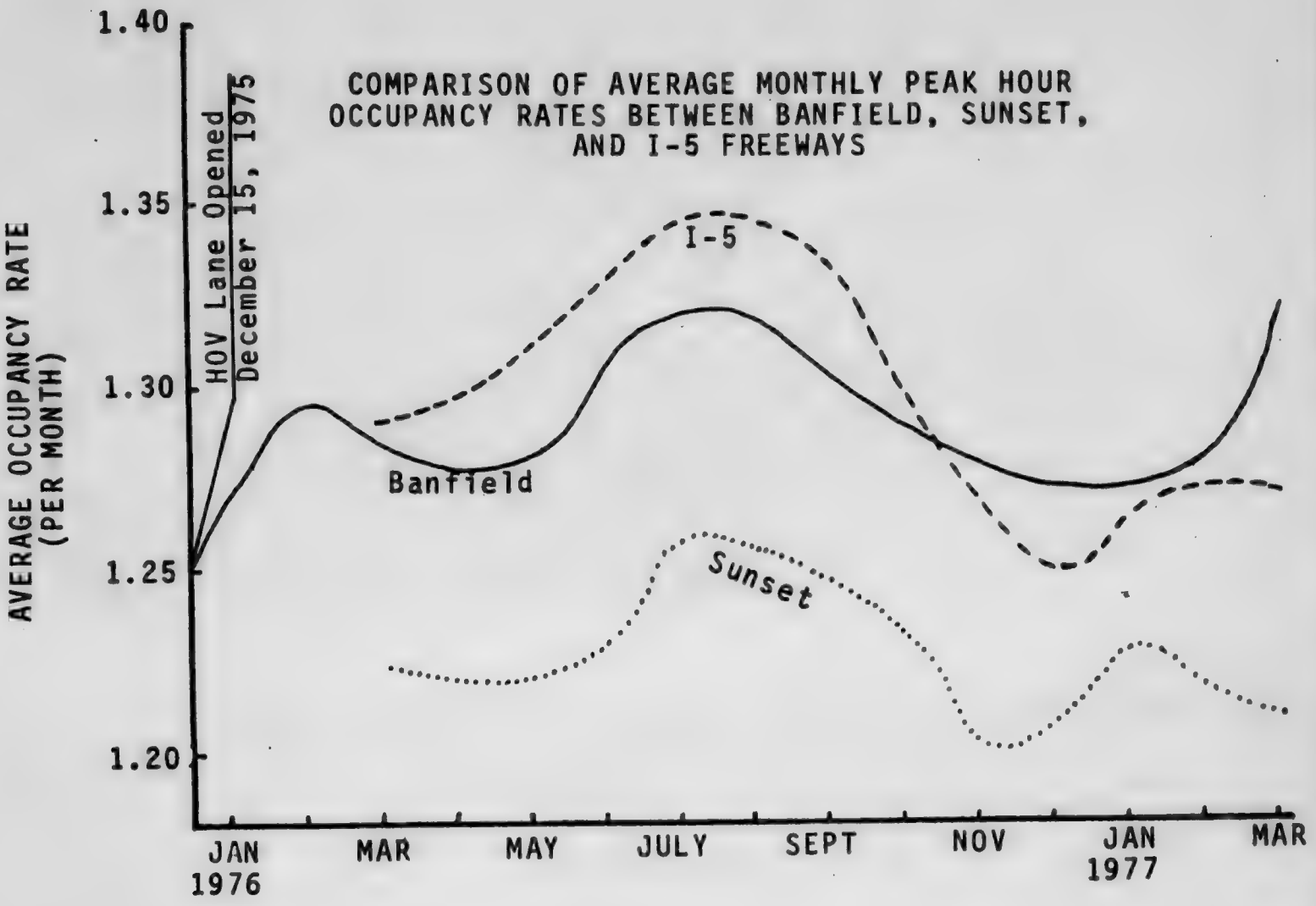
e Banfield Freeway prior to the opening of the HOV Lanes on
on in June of 1976 are compared to the Sunset and I-5
in the position of the Banfield Freeway to the other Freeways
Portland's other major East/West route West of the CBD and
eway is Portland's major North/South route and the study
The Banfield study length is approximately 4.55 miles. Both
is 20 percent less than the other two freeways in the

ne 1976, the monthly number of accidents on the Banfield



8. The Banfield monthly average peak hour occupancy rates for January, 1976 thru March, 1977 are compared to the Sunset and I-5 monthly average peak hour occupancy rates for March, 1976 thru March, 1977. The data for occupancy rates on the Sunset and I-5 Freeway is missing prior to March of 1976. The occupancy rates are calculated from dividing the number of people by the number of vehicles using the Freeway. From reviewing the graphs the occupancy rate of the Banfield has surpassed the I-5 with the help of the HOV lanes. I-5 appears to have many more carpools than the Sunset due to the longer distances traveled by persons using I-5 from Vancouver, Washington.

COMPARISON OF AVERAGE MONTHLY PEAK HOUR OCCUPANCY RATES BETWEEN BANFIELD, SUNSET, AND I-5 FREEWAYS



The peak hour vehicle occupancy rates continues to grow on the Banfield Freeway.

9. The task of monitoring Carbon Monoxide (CO) concentrations in the ambien air for the Banfield HOV study has terminated as of March 31, 1977. Table 1 on page 75 shows the number of violations of the National Air Quality Standard of 10 mg/m^3, (8 hour average) during the course of the study. It should be pointed out that the monitoring sites at M.P. 1.46 and 47th and Banfield are measuring concentrations as close to the Banfield Freeway as practical and are not true critical receptor sites. A critical receptor is an area which is especially sensitive to air pollution, such as hospitals, nursing homes, parks and schools. Therefore, using the term violation in connection with the measurements taken at these two sites is somewhat misleading. On March 1, 1977, three of six CO monitoring sites were moved from 21st and Broadway, 22nd and Burnside, and 20th and Sandy to 1204 N.E. 53rd Avenue, 4403 N.E. Royal Court, and 129 N.E. 24th near Davis Street. The relocation of these sites was initiated to obtain more comprehensive background data in the Banfield Corridor. Background is defined as the concentration of pollutants at a site which is not directly affected by local sources such as highways, parking lots, or industries. At that time the sampling schedule for CO at all sites was changed to be carried out daily, Monday thru Friday, with monitors in operation from 12 noon to 12 midnight. Except for M.P. 1.46 and 47th and Banfield the sampling time changes had already been made on December 21, 1976. The daily sampling times were changed at all sites to cover the peak hours of CO concentrations. Data from existing DEQ monitoring stations, and the OSHD air quality trailor near the I-205 Corridor indicate the peak eight-hour CO concentrations usually occur between 2 P.M. and Midnight. Graphs of average hourly CO concentrations for the months of October, 1976 and January of 1977 have been included on page 76 thru 87 as examples of the outgoing work. Future correlations will be attempted between traffic measurments and CO data.

10. Nitrogen Oxides (NO_x) data has been collected continually since September, 1976 on strip charts. The NO_x charts have been reduced to hourly averages. A computer program is being written to calibrate the data by removing errors caused by the measuring instruments. Once the data has been calibrated it can be analyzed and compared to the National Air Quality Standard of 100 ug/m^3 (annual arithmetic meon). The NO_x data will also be used to help make some determination of photochemical oxidant potential.

11. The strip charts from the Meteorology Station are reduced to hourly averages. Data is then processed to provide summaries and relative frequency distribution tables suitable for the preparation of wind roses. Wind speeds and directions can also be used as direct input in models or as useful guides in interpreting measured pollutants at various monitoring sites. Some examples of this data are given on pages 88 thru 91 concerning collection of information during October of 1976 and January of 1977.

12. Monitoring for Lead particles in the Banfield Corridor continues. Since the original starting date of sampling in October, 1975 to December, 1976, there has not been any violations of the State Standard for Lead which is 3.0 ug/m^3, (monthly average).

SUMMARY

After 15 months of operation, the Banfield HOV Lanes are continuing to attract ridership from carpools and buses. The following statistics should help in evaluating the effectiveness of these lanes:

1. Vehicle Volumes During the A.M. and P.M. peak rush hours on the Banfield have increased a seasonally adjusted 9 percent since the HOV lanes were opened for use.

2. Total People using the Banfield during the A.M. and P.M. peak rush hour periods have increased a seasonally adjusted 28 percent since the HOV lanes were opened for use.

3. Occupancy Rates of vehicles using the Banfield during the A.M. and P.M. peak rush hours have increased from 1.22 prior to the HOV Lanes to 1.32 in March of 1977.

4. Average Travel Speeds of vehicles using the Banfield during the A.M. and P.M. peak rush hours in the normal lanes are about the same as before the HOV Lanes. The average travel speeds of vehicles using the HOV Lanes are from 40 to 48 MPH or 8 to 12 MPH greater than the normal lanes.

5. HOV Lanes are handling 20 percent of the persons using the Freeway during A.M. and P.M. peak rush hours in 5 percent of the vehicles. The HOV Lanes are working to help relieve peak hour traffic congestion.

6. Banfield Flyer Buses continue to entice more patrons as people become more aware of the service. As more park-and-ride pick-up points are added and the service expanded, the greater will be the use of these buses.

7. Carpool Usage should get a further boost when downtown parking privileges become available for carpools.

8. Accidents are continuing to decrease as more people learn to use the facility.

9. HOV Lane Violators have leveled off to less than 1.0 percent of the number of vehicles using all the Banfield Lanes.

All of the above improvements in the traffic flow are occurring without any negative impact upon the single person car operating in the normal lanes. The results are encouraging..

CHAPTER II

WINTER QUARTERS WORK

Technical Advisory Committee Work

The Banfield Technical Advisory Committee is comprised of representatives of the following governmental bodies and private citizens groups:

1. City of Portland
2. Multnomah County
3. Oregon Department of Transportation
4. Oregon Department of Environmental Quality
5. Tri-Met or Metropolitan Transit District
6. Oregon State Police
7. Multnomah County Circuit Court
8. Hollywood Kiwanis
9. Dart Bus Group

The Committee has been meeting once a month since April of 1975, to monitor the planning of, construction of, and the operation of the HOV Lanes. This effort encompasses monitoring traffic characteristics, bus and carpool use, safety, and air quality. Some of the items considered and discussed by the Committee during the winter quarter follows:

1. The Committee continues to study over the problem of overwidth vehicles operating on the Banfield Freeway

during peak rush hours. The State issues permits for all vehicles in excess of 8 feet which use the Freeway. These permits do not exclude all overwidth vehicles from the Freeway during these hours. The vehicles interfere with the operation of the HOV Lanes by either forcing non-HOV's to pass them in the HOV Lanes or slowing down HOV Lane traffic by protruding into the HOV Lanes. The Committee feels that all overwidth vehicles should be prevented from using the Banfield during peak rush hours to remove another hindrance to the smooth operation of the project. It was felt that all vehicles greater than 8 foot in width should be prohibited from the Freeway during peak rush hours. However, it was later learned that Tri-Met buses travel on State permits and are 8-feet and 6-inches wide. Therefore, this factor will have to be considered when revising the permits to exclude overwidth vehicles.

The Committee's recommendation to restrict overwidth vehicles from the Banfield Freeway during peak rush hours will be acted upon by the State Transportation Commission during the next quarter.

2. The funds for Tri-Met to operate the Carpool program which includes Carpool Matching Service had been increased so that this service can continue another year. In addition, Tri-Met continues to work with the City of Portland to secure preferential parking in the downtown Core area for carpools. This would involve allowing carpools to park all day at 6-hour parking meters for a set monthly fee. It is anticipated that the funds needed for the administration of this parking privilege will soon be available. The City of Portland and Tri-Met are taking care of this work.

3. The enforcement of the HOV Lanes during this time period continued to receive considerable attention by the Committee. The OSP (Oregon State Police) continue to keep the Committee informed as to the number of HOV Lane violators ticketed and observed. The percentage of vehicles violating the HOV Lanes fluctuated between 26 percent of the total vehicles using the HOV Lanes in January to 15 percent in March. It was felt that the high percentage of violators in January was due to a severe ice storm during the second week in January. During this week the OSP announced they would not patrol the lanes because of safety and traffic congestion considerations. When the January violation count was made the following week it was found that many motorists continued using the HOV Lane illegally. The police saturated the enforcement for several days to relieve the situation.

The number of citations issued between December 20 and March 16 for HOV Lane violations totaled 946.

4. During this time period the OSP made a report concerning truck accidents in the Portland Metropolitan area. This report was based upon the findings of a special committee formed by people concerned about truck accidents in the Portland area. It was generated by a rash of truck accidents on Portland Freeways during 1976. Some of these accidents had occurred on the Banfield Freeway, creating traffic delays. Some people tried to blame the HOV Lanes for these accidents. However, the report indicated that the truck accidents were occurring at the same frequency on all feeways and excessive speed was the contributing factor.

5. The Committee continues to keep abreast with the developments concerning the Banfield Transitway Project. This project will up-grade the Banfield Freeway in the near future. Several picture slide shows and knowledgeable speakers informed members of the status of this project. The project is in the pre-Draft Environmental Impact Statement stage. Several of the alternatives being considered are the continuation of the existing HOV Lanes. The lanes would be lengthened to pick up new bus lanes from the new I-205 Freeway near 96th Avenue and the Banfield Freeway. The Westbound egress of the HOV Lane would be improved at the Holiday off-ramp.

6. Work continues on the City of Portland Downtown Mall for bus pick-up and discharge. It is nearing 55 percent completion. When completed, it will restrict 5th and 6th Avenues in the heart of Portland business district to Tri-Met buses except one lane which will service businesses in the area. In addition, Tri-Met is considering an additional park-and-ride station in the Gresham area for the Banfield Flyer buses.

7. The Committee prepared and released a general press release during the first week in March. This press release thanked all those people who participated in the commuter survey and informed them of some of the results of the survey. Another marketing effort was initiated at the first of the year whereby a "Riders Digest" was given away to each bus passenger on the Banfield Flyer. This newsletter is a monthly Tri-Met publication containing the latest news on bus routes and schedules. A special brochure encouraging carpooling and riding the bus was mailed out to

downtown employers. Also, a series of three testimonial ads were run in the Gresham Outlook, a local newspaper in the Banfield Flyer service area. Local TV and radio stations continued carrying the CARPOOL "Band Together" 30-second commercial spot at frequent intervals. The latest publicity blitz has increased the number of telephone calls concerning Carpool Matching Service. This service had received an average of 20 calls per month during 1976. The calls increased to 27 in January and to 40 in February of 1977.

SUMMARY OF THE COMMUTER SURVEY RESULTS

A commuter survey of people using the Banfield Freeway during the A.M. peak rush hours was conducted during the first week of November of 1976. The survey sampled both users of the HOV Lane and non-users in the other lanes. The survey was designed by the Banfield Technical Advisory Committee and was made to obtain the following objectives:

A) To learn the origin and destination of the people using the Banfield Freeway.

B) To learn how the people using the Banfield Freeway regard the HOV Lane concept.

C) To learn why the non-users of the HOV Lanes fail to take advantage of the reserved lanes by either car-pooling or riding the bus.

D) To learn why the HOV Lane users were enticed to form carpools so that they could use the lanes.

E) To learn how and where the carpoolers commuted prior to the opening of the HOV Lanes.

F) To learn how people first heard about the HOV lanes so that the various publicity mediums can be evaluated as to their effect.

G) To learn what people think would do the most good toward improving air quality.

Over 2,261 non-HOV Lane user vehicle license plate numbers were recorded from the 47th Avenue structure during the A.M. peak hours. With the help of the Oregon State Motor Vehicle Department, the names and adresses of the owners of these vehicles were ascertained and questionnaire forms were mailed to them. The responses from this survey are given on pages 23 thru 31. The origins and destinations of these people are

included between pages 23 and 28. Both a pictoral fold-out map and a written listing is provided the reader of the origins and destinations. The zones used in this study were called the PVMATS 1970 Assignment Zones or the Portland-Vancouver-Metropolitan-Area-Transportation Study. These zones were created by the Oregon Department of Transportation in cooperation with CRAG. From reviewing the responses and data presented, the following conclusions can be made:

A. Origins and Destinations

1. Thirty-six percent of the non-HOV Lane users and 26 percent of the HOV Lane carpool users originate west of 122nd Avenue in zones 5 and 6.

2. Thirty-four percent of the non-HOV Lane users and 38 percent of the HOV Lane carpool users originate between 122nd And 202nd Avenues in zones 11 and 12.

3. Seventeen percent of the non-HOV Lane users and 20 percent of the HOV Lane carpool users originate between 202nd and 282nd Avenues in zones 13 and 14.

4. Five and one-half percent of the non-HOV Lane users and 10 percent of the HOV Lane carpool users originated east of 282nd Avenue on Highways 26 and I-80N.

5. Thirty-seven percent of the non-HOV Lane users and 50 percent of the HOV Lane carpool users travel to the Central Business District, identified by CBD.

6. Twenty percent of the non-HOV Lane users and 24 percent of the HOV Lane carpool users travel to the Lloyd Center area, or zone 1.

It is readily apparent that the further people live from their destination, the more apt they are to carpool. Also, where people are going to the same destination, such as the CBD or the Lloyd Center, the greater is the tendency to carpool.

These conclusions indicate that the best results for carpool marketing can be achieved by directing that effort towards people driving more than seven miles to work and going to large centrally located employers.

B. Carpool Driver and Passenger Responses

1. Prior to the opening of the HOV Lanes, most carpool drivers were either in two or three person carpools or driving alone. Very few of these people indicated that they rode the bus. The majority of carpool passengers indicated that they either rode the bus or were in three person carpools prior to the opening of the HOV Lanes.

2. About 30 percent of both the carpool drivers and passengers indicated that they used the Banfield arterial streets prior to the opening of the HOV Lanes.

3. Newspapers and signs along the Banfield were named most often as the publicity medium which first informed people of the Banfield HOV Lanes.

4. Cost savings was the most mentioned incentive which contributed the most to the formation of the carpools. Convenience was mentioned as a strong second to cost savings by the carpool passengers. Employer incentives and environmental concerns were mentioned the least.

5. Traffic flow improvements and carpools were the most often named activities which carpoolers thought would do the most to improve the air quality.

6. Most carpool users of the HOV Lanes commented that the HOV Lanes should be opened up to 2 person carpools. They critized the design of the HOV Lanes as to the difficulties of getting into and out of the lanes. They also commented about the short length of the eastbound HOV Lane and the amount of illegal vehicles using the lanes.

C. Non-HOV Lane User Responses

1. Over 90 percent of the non-HOV Lane users were aware of the carpool matching service and Banfield Flyer buses. About 8 percent desired additional information concerning these services.

2. Inconvenience was named most often as the major reason people did not carpool. Need the car for work was named as the next most often reason.

3. Route inconvenience was named most often as the major reason more people do not ride the bus. Need the car for work and the bus is too slow came in second place.

4. Traffic flow improvements and Mass Transit were indicated as the major activity needed to improve air quality.

5. Most non-HOV Lane users commented that HOV Lanes should be opened to all vehicles at all times or to at least 2 person carpools. They felt the lanes were not being utilized enough during the peak rush hours to warrant the preferential lanes.

In conclusion, this survey received a very high rate of response from both HOV Lane users and non-users. This indicates a lot of interest in the project. This was further demonstrated by the large percentage of people who responded with written comments about the project. Several of these comments consisted of two-page letters on the subject. Most people commented that they desired to have the HOV Lanes opened to all traffic at all times. It is apparent that we have not adequately informed the public that this alternative is not possible under the Portland Area Clean Air Plan. The HOV Lane demonstration project remains the most viable interim solution to the improvement of traffic congestion on the Banfield Freeway. The Banfield Transitway Project is currently under study with a construction start several years away.

The final results of the Tri-Met (Mass Transit Service District) survey of the Banfield Flyer bus patrons will be included in the next quarterly report.

PVMATS

SUPER ZONES

BANFIELD COMMUTER SURVEY

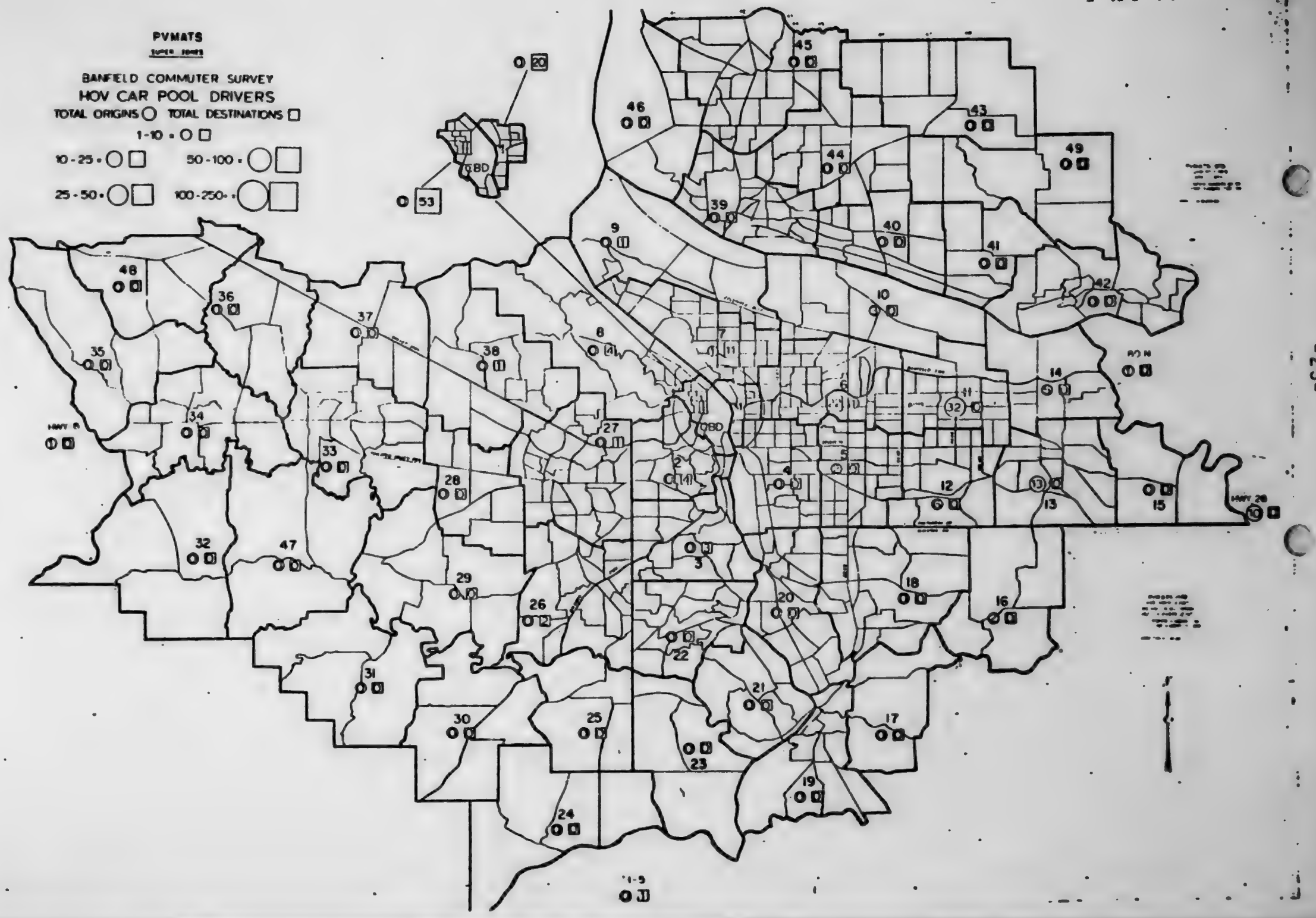
HOV CAR POOL DRIVERS

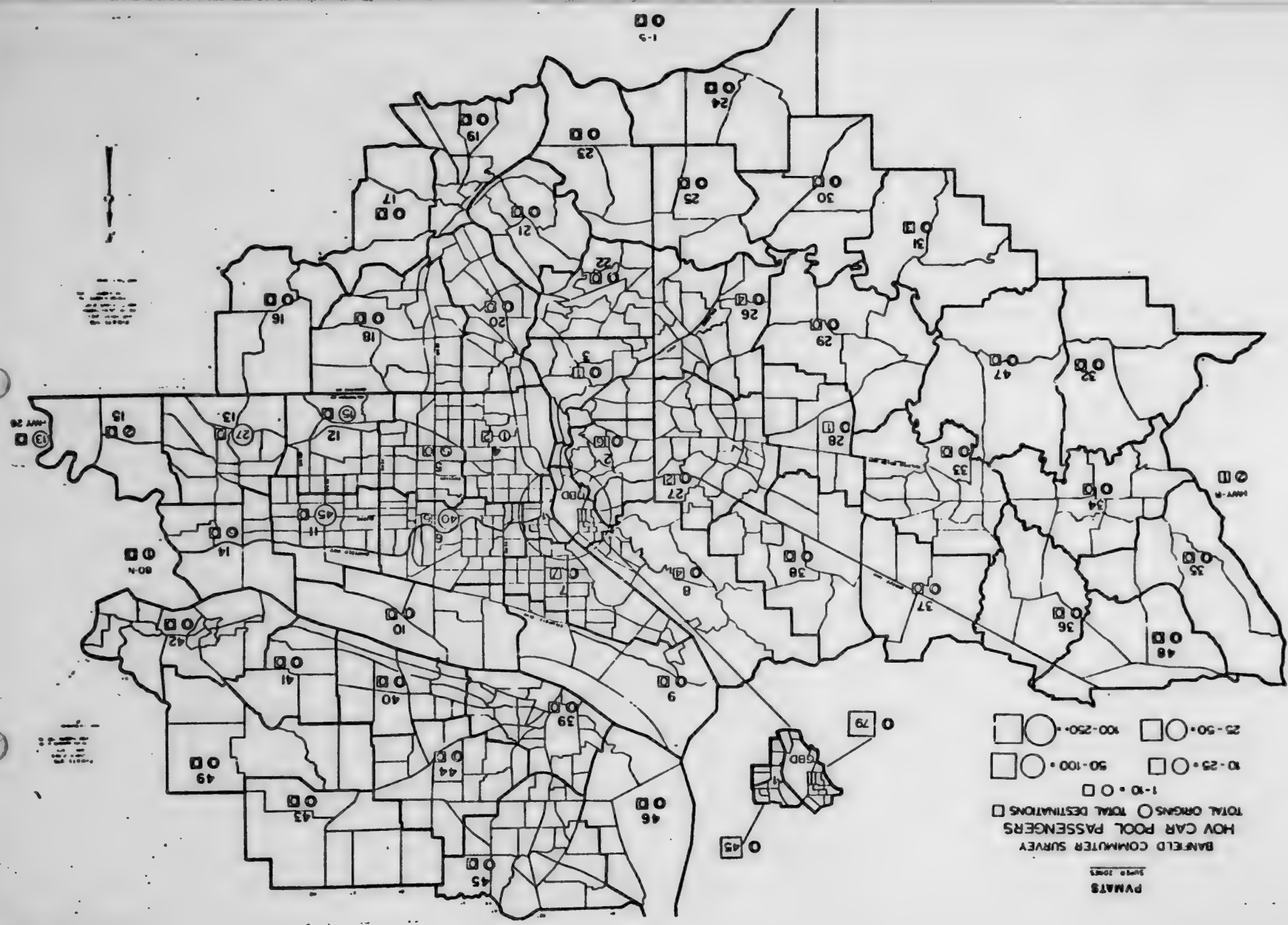
TOTAL ORIGINS ○ TOTAL DESTINATIONS □

1-10 • ○ □

10-25 • ○ □ 50-100 • ○ □

25-50 • ○ □ 100-250 • ○ □




PVMATS
BANFIELD COMMUTER SURVEY
HOV CAR POOL PASSENGERS
TOTAL ORIGINS TOTAL DESTINATIONS
1-10
10-25
25-50
50-100
100-250

PVMATS

SUPER ZONES

BANFIELD COMMUTER SURVEY

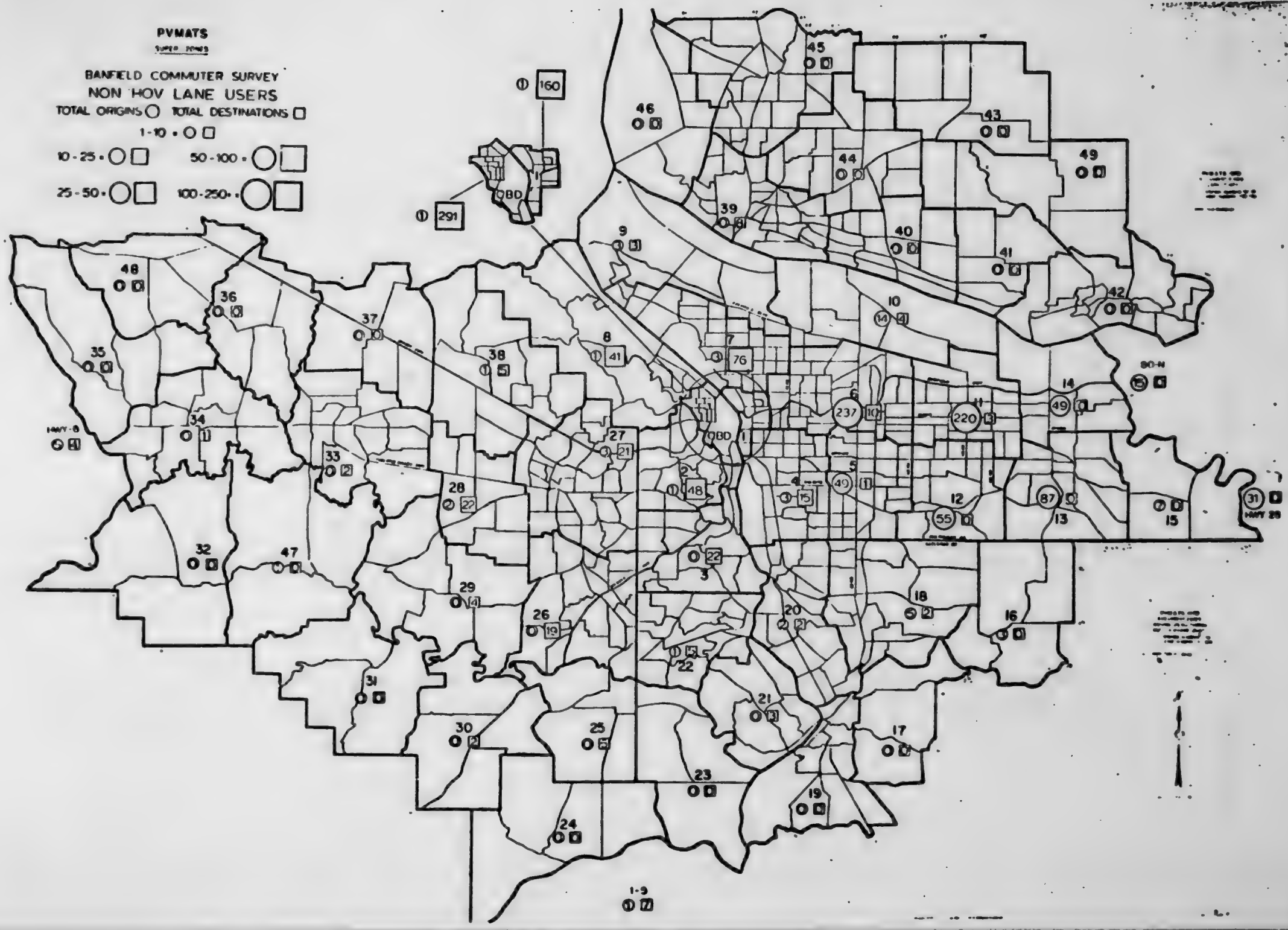
NON HOV LANE USERS

TOTAL ORIGINS ○ TOTAL DESTINATIONS □

1-10 • ○ □

10-25 • ○ □ 50-100 • ○ □

25-50 • ○ □ 100-250 • ○ □



ANFIELD HOV PROJECT SURVEY
CAR POOL DRIVERS

AREA No.	NUMBER ORIGINS	NUMBER DESTINATIONS	PERCENT ORIGINS	PERCENT DESTINATIONS
CBD	0	53	0.00	51.96
1	0	20	0.00	19.61
2	0	4	0.00	3.92
3	0	3	0.00	2.94
4	0	0	0.00	0.00
5	2	0	2.04	0.00
6	22	1	22.45	0.98
7	1	11	1.02	10.78
8	0	4	0.00	3.92
9	0	1	0.00	0.98
10	3	0	3.06	0.00
11	32	0	32.65	0.00
12	6	0	6.12	0.00
13	13	0	13.27	0.00
14	5	0	5.10	0.00
15	0	0	0.00	0.00
16	2	0	2.04	0.00
17	0	0	0.00	0.00
18	0	0	0.00	0.00
19	0	0	0.00	0.00
20	0	0	0.00	0.00
21	0	0	0.00	0.00
22	0	0	0.00	0.00
23	0.	0	0.00	0.00
24	0	0	0.00	0.00
25	0	0	0.00	0.00
26	0	2	0.00	1.96
27	0	1	0.00	0.98
28	0	0	0.00	0.00
29	0	0	0.00	0.00
30	0	0	0.00	0.00
31	0	0	0.00	0.00
32	0	0	0.00	0.00
33	0	0	0.00	0.00
34	0	0	0.00	0.00
35	0	0	0.00	0.00
36	0	0	0.00	0.00
37	0	0	0.00	0.00
38	0	1	0.00	0.98
39	0	0	0.00	0.00
40	0	0	0.00	0.00
41	0	0	0.00	0.00
42	0	0	0.00	0.00
43	0	0	0.00	0.00
44	0	0	0.00	0.00
45	0	0	0.00	0.00
46	0	0	0.00	0.00
47	0	0	0.00	0.00
48	0	0	0.00	0.00
49	0	0	0.00	0.00
HWY 8	1	0	1.02	0.00
HWY 26	10	0	10.20	0.00
I-5	0	1	0.00	0.98
80N	1	0	1.02	0.00

NFIELD HOV PROJECT SURVEY
Car Pool Passengers

AREA No.	NUMBER ORIGINS	NUMBER DESTINATIONS	PERCENT ORIGINS	PERCENT DESTINATIONS
CBD	0	79	0.00	49.07
1	0	45	0.00	27.95
2	0	6	0.00	3.73
3	0	1	0.00	0.62
4	1	2	0.64	1.27
5	5	0	3.18	0.00
6	40	6	25.48	3.73
7	0	7	0.00	4.35
8	0	4	0.00	2.48
9	0	0	0.00	0.00
10	0	0	0.00	0.00
11	45	0	28.60	0.00
12	15	0	9.55	0.00
13	27	0	17.20	0.00
14	6	0	3.82	0.00
15	2	0	1.27	0.00
16	0	0	0.00	0.00
17	0	0	0.00	0.00
18	0	0	0.00	0.00
19	0	0	0.00	0.00
20	0	0	0.00	0.00
21	0	0	0.00	0.00
22	0	0	0.00	0.00
23	0	0	0.00	0.00
24	0	0	0.00	0.00
25	0	0	0.00	0.00
26	0	4	0.00	0.00
27	0	2	0.00	2.48
28	0	1	0.00	1.24
29	0	0	0.00	0.62
30	0	0	0.00	0.00
31	0	3	0.00	0.00
32	0	0	0.00	1.86
33	0	0	0.00	0.00
34	0	0	0.00	0.00
35	0	0	0.00	0.00
36	0	0	0.00	0.00
37	0	0	0.00	0.00
38	0	0	0.00	0.00
39	0	0	0.00	0.00
40	0	0	0.00	0.00
41	0	0	0.00	0.00
42	0	0	0.00	0.00
43	0	0	0.00	0.00
44	0	0	0.00	0.00
45	0	0	0.00	0.00
46	0	0	0.00	0.00
47	0	0	0.00	0.00
48	0	0	0.00	0.00
49	0	0	0.00	0.00
HWY 8	2	1	1.27	0.62
HWY 26	13	0	8.28	0.00
I-5	0	0	0.00	0.00
80N	1	0	0.64	0.00

BANFIELD HOV PROJECT SURVEY
Non-Users of HOV Lane

AREA No.	NUMBER ORIGINS	NUMBER DESTINATIONS	PERCENT ORIGINS	PERCENT DESTINATIONS
CBD	1	291	0.12	36.98
1	1	160	0.12	20.33
2	1	48	0.12	6.10
3	0	22	0.00	2.80
4	3	15	0.37	1.91
5	49	1	6.12	0.13
6	237	10	29.59	1.27
7	3	76	0.37	9.66
8	1	41	0.12	5.21
9	3	3	0.37	0.38
10	14	4	1.75	0.51
11	220	3	27.47	0.38
12	55	0	6.87	0.00
13	87	0	10.86	0.00
14	49	0	6.12	0.00
15	7	0	0.87	0.00
16	3	0	0.37	0.00
17	0	0	0.00	0.00
18	5	2	0.62	0.25
19	0	0	0.00	0.00
20	2	2	0.25	0.25
21	0	3	0.00	0.38
22	1	5	0.12	0.64
23	0	0	0.00	0.00
24	0	0	0.00	0.00
25	0	6	0.00	0.76
26	0	19	0.00	2.41
27	3	21	0.37	2.67
28	2	22	0.25	2.80
29	0	4	0.00	0.51
30	0	2	0.00	0.25
31	0	0	0.00	0.00
32	0	0	0.00	0.00
33	0	2	0.00	0.25
34	0	1	0.00	0.13
35	0	0	0.00	0.00
36	0	0	0.00	0.00
37	0	0	0.00	0.00
38	1	5	0.12	0.64
39	0	8	0.00	1.02
40	0	0	0.00	0.00
41	0	0	0.00	0.00
42	0	0	0.00	0.00
43	0	0	0.00	0.00
44	0	0	0.00	0.00
45	0	0	0.00	0.00
46	0	0	0.00	0.00
47	1	0	0.12	0.00
48	0	0	0.00	0.00
49	0	0	0.00	0.00
HWY 8	5	4	0.62	0.51
HWY 26	31	0	3.87	0.00
I-5	1	7	0.12	0.89
80N	15	0	1.87	0.00

FINAL RESULTS OF
BANFIELD HOV PROJECT SURVEY
CARPOOL DRIVER

Total Number of Mailouts	257	
Mailouts Returned Non-Deliverable	22	% Of Total 8.56
Responses as of 1-13-77	108	42.02
Number of Usable Responses	103	40.08

Responses To Questions

	Number of Responses	Percent of the Question	Percent of the Responses
3. How did you normally commute prior to using the Banfield HOV Lane?			
Bus?	4	3.74	3.88
Drove Alone?	31	28.97	30.10
2-Person Carpool?	35	32.71	33.98
3-or-more Person Carpool?	37	34.58	35.92
4. Which route did you normally use prior to the Banfield HOV Lane?			
Banfield?	73	70.19	70.87
Sandy?	3	2.88	2.91
Burnside?	9	8.65	8.74
Glisan?	8	7.69	7.77
Other Route?	11	10.58	10.68
5. How did you first hear about Banfield HOV Lanes?			
Newspaper?	51	29.31	49.51
Radio?	21	12.07	20.39
Television?	31	17.82	30.10
Employer?	3	1.72	2.91
Brochures?	11	6.32	10.68
Billboards?	9	5.17	8.74
Signs on Banfield?	41	23.56	39.81
Other?	7	4.02	6.80
6. What incentive contributed to the formation of your carpool?..			
Cost Savings?	50	33.11	49.51
Time Savings?	35	23.18	33.98
Convenience?	31	20.53	30.10
Employer Incentives?	5	3.31	4.85
Environmental Concerns?	12	7.95	11.65
7. Which increased activity do you think would do the most the improve air quality?			
Mass Transit?	24	18.75	23.30
Carpooling?	34	26.56	33.01
Vehicle Emission Inspection?	15	11.72	14.56
Traffic Flow Improvements?	40	31.25	38.86
Other Factor?	15	11.72	14.56
8. Can you recommend any improvements to, or do you have any comments concerning the HOV Lanes?			
Number of Comments	84		81.55

FINAL RESULTS OF BANFIELD HOV PROJECT SURVEY CARPOOL PASSENGERS

		% of Total
Total Number of Mailouts	523	
Mailouts Returned Non-Deliverable	44	8.41
Responses as of 1-13-77	161	30.78
Number of Usable Responses	159	30.40

Responses To Questions	Number of Responses	Percent of the Question	Percent of the Usable Responses
3. How did you normally commute prior to using the Banfield HOV Lane?			
Bus?	45	26.96	28.30
Drove Alone?	33	19.76	20.75
2-Person Carpool?	36	21.56	22.64
3-or-more Person Carpool?	53	31.74	33.33
4. Which route did you normally use prior to using the Banfield HOV Lane?			
Banfield?	108	67.50	67.92
Sandy?	5	3.13	3.14
Burnside?	7	4.38	4.40
Glisan?	16	10.00	10.06
Other Route?	24	15.00	15.09
5. How did you first hear about Banfield HOV Lanes?			
Newspaper?	77	30.43	48.43
Radio?	33	13.04	20.75
Television?	54	21.34	33.96
Employer?	5	1.98	3.14
Brochures?	15	5.93	9.43
Billboards?	12	4.74	7.55
Signs on Banfield?	50	19.76	31.45
Other?	7	2.77	4.40
6. What incentive contributed to the formation of your carpool?			
Cost Savings?	77	34.84	48.43
Time Savings?	38	17.19	20.75
Convenience?	73	33.03	45.91
Employer Incentives?	8	3.62	5.03
Environmental Concerns?	16	7.24	10.06
Other?	9	4.07	5.66
7. Which increased activity do you think would do the most to improve air quality?			
Mass Transit?	57	28.93	35.85
Carpooling?	54	27.41	33.96
Vehicle Emission Inspection?	20	10.15	12.58
Traffic Flow Improvements?	52	26.40	32.70
Other Factor?	14	7.11	8.81
8. Can you recommend any improvements to, or do you have any comments concerning the HOV Lanes?			
Number of Comments	126		79.25

FINAL RESULTS OF BANFIELD HOV PROJECT SURVEY
Non-Users of HOV Lane

		% of Total
Total Number of Mailouts	2,261	
Mailouts Returned Non-Deliverable	195	8.62
Responses as of 1-13-77	837	37.02
Number of Usable Responses	806	35.65

Responses To Questions

	Number of Responses	Percent of the Question	Percent of the Responses
3. Are you aware of Carpool Matching Service?			
Yes?	740	92.15	91.81
No?	63	7.85	7.82
4. Are you aware of Banfield Flyer Express Buses?			
Yes?	753	94.60	93.42
No?	43	5.40	5.33
5. Do you desire information about the following?			
Carpool Matching Service?	55	45.45	6.82
Bus Service?	66	54.55	8.19
6. What do you think is the major reason more people don't Carpool?			
No Personal Privacy?	106	8.45	13.16
Inconvenient?	547	43.62	67.87
Need Car for Work?	277	22.09	34.37
Unreliable?	169	13.48	20.97
Other?	155	12.36	19.23
7. What do you think is the major reason more people don't ride the bus?			
No Personal Privacy?	91	6.78	11.29
Too Infrequent?	145	10.80	17.99
Need Car for Work?	238	17.73	29.53
Too Slow?	225	16.77	27.92
Route Inconvenient?	361	26.90	44.79
Park & Ride Locations Inconvenient?	105	7.82	13.03
Other?	177	13.48	21.96
8. Which increased activity do you think would do the most to improve air quality?			
Mass Transit?	252	26.11	31.27
Carpooling?	79	10.80	17.99
Vehicle Emission Inspection?	118	12.23	14.64
Traffic Flow Improvements?	405	41.97	50.25
Other Factor?	111	11.50	13.77
9. Can you recommend any improvements to, or do you have any comments concerning the HOV Lanes?			
Number of Comments	659		81.76

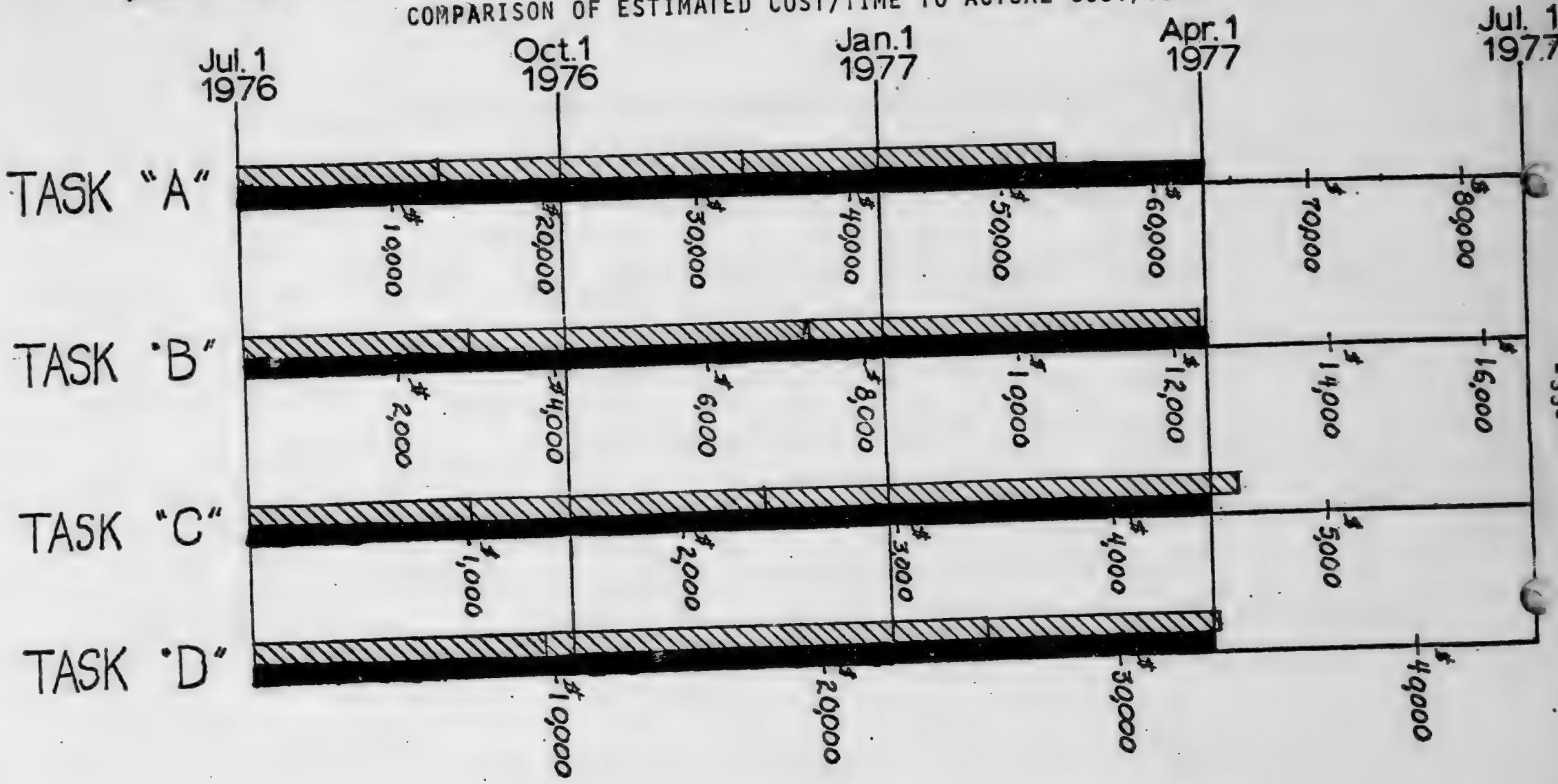
SUMMARY OF EFFORT AND EXPENDITURES

This section gives a brief summary of the Federal Grant expenses incurred to date and the amount of effort expended to date by the professional staff on monitoring activities.

Bar Chart No. 1, indicates the percent of expenditures incurred to April 1, performing the monitoring of tasks A, B, C, and D. This list included only the expenditures incurred after the July 1, 1976 Grant award date.

During this quarter the professional staff has continued to monitor the individual task assignments as per Federal Grant agreement. Table No. 1 on page 34 shows the level of effort expended by the professional staff to April 1, 1977.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
COMPARISON OF ESTIMATED COST/TIME TO ACTUAL COST/TIME



= Monetary Expenditures To Elapsed Time
= Elapsed Time
= Estimated Costs Proportional To Total Grant Time

BAR CHART NO. 1

BANFIELD FREEWAY, PORTLAND, OREGON

EVALUATION of PREFERENTIAL LANES for HIGH-OCCUPANCY VEHICLES

LEVEL of EFFORT EXPENDED TO DATE by PROFESSIONAL STAFF

TABLE NO. 1

NAME	TASK "A"	TASK "B"	TASK "C"	TASK "D"	TOTAL
MAX KLOTZ					
Prior to July 1, 1976	0.35	0.10	0.20	0.35	1.00
July 1, 1976 to April 1, 1977	0.08	0.03	0.06	0.08	0.25
JERRY C. STREET					
Prior to July 1, 1976	0.15	0.15	0.07	0.13	0.50
July 1, 1976 to April 1, 1977	1.59	1.59	0.79	1.32	5.29
BILL McCONNEL					
Prior to July 1, 1976	6.30	1.35	0.45	0.90	9.00
July 1, 1976 to April 1, 1977	6.30	1.35	0.45	0.90	9.00
JEF KAISER					
Prior to July 1, 1976	0.60	0.15	0.00	2.25	3.00
July 1, 1976 to April 1, 1977	0.08	0.02	0.02	0.13	0.25

NOTE: All time is in Man-Hours
Does not include Technicians' time.

WORK PLANNED FOR SUBSEQUENT PERIOD

The following items of work will be performed during the next quarter:

1. Continue the collection of data for the on-going graphing of tasks A, B, C, and D as presented in Section I and the Appendices of this report.

2. A complete tabulation of the results of, and some conclusions, from the annual commuter survey taken by Tri-Met Transit District of Banfield Flyer bus patrons will be presented.

3. The results of the effects of additional Banfield Flyer Bus park-and-ride lots and of carpool parking incentives in the CBD will be included.

APPENDICES

Office Data Gathering Procedures

The following office procedures have been developed to aid in the collection of data necessary to construct the on-going graphs shown in the appendices of this report. Most of these procedures are supplements to the field data gathering procedures presented in the January 15, 1977 Quarterly Report.

List of office data gathering procedures included in the section are as follows:

Task "A"		Page NO.
1.	Task A-2 Peak Hour Vehicle Totals Per Lane for Banfield Freeway, Office Supplement.....	38-39
2.	Task A-4 Peak Hour Occupancy Totals for Banfield Freeway, Office Supplement No. 1.....	40-41
3.	Task A-4 Peak Hour Occupancy Totals for Banfield Freeway, Office Supplement No. 2.....	42-44
4.	Task A-5 Peak Hour Occupancy Totals for Sunset Highway, Office Supplement.....	45-48
5.	Task A-6 Peak Hour Average Speed For Banfield Freeway, Office Supplement.....	49-51
6.	Task A-7 Peak Hour Average Speed for Arterial Streets, Office Supplement.....	52-54
7.	Task A-10 Peak Hour HOV Lane Violators for Banfield Freeway, Office Supplement.....	55-57
8.	Task A-11 Peak Hour Carpools on Banfield Freeway, Office Supplement.....	58-60

EVALUATION OF PREFERENTIAL LANES FOR HIGH-OCCUPANCY VEHICLES ON THE BANFIELD FREEWAY PORTLAND, OREGON

TASK A-2 (Office Supplement)

PEAK HOUR VEHICLE LANE COUNTS AT 47th

PURPOSE

To obtain in usable form the Peak Hour Vehicle Lane Count from the Vehicle Lane Count Sheets that are taken each month for the Banfield Monitoring Program.

TIME

Processing of the Vehicle Lane Counts will be made as soon after the collection of the data as permitted by the testing schedule and after the Vehicle Occupancy Rates have been calculated and entered on the Current Banfield Freeway Traffic Study Summary Sheet.

PLACE

William McConnel's office in Room 42 of the Oregon State Highway Division's Building at 5821 N.E. Glisan St., Portland, Oregon.

EQUIPMENT REQUIRED

A. The Banfield Freeway Vehicle Lane Count Sheets.

B. Adding machine, calculator, or etc.

C. Pencil and/or pen

D. Current Banfiel Freeway Traffic Study Summary Sheet.

PROCEDURE

A. Determination of the Average Number of Vehicles using the Banfield Freeway during the peak hours (7-8 A.M. Westbound and 4:30-5:30 P.M. Eastbound)

1. Compare the one-half hour counts and check for:

a. Accidents

b. Overt traffic conditions

c. Adverse weather conditions

d. Other detrimental conditions

PEAK HOUR VEHICLE LANE COUNTS AT 47th

PROCEDURE (Cont.)

2. If any of the above mentioned are found, that one-half hour count is disregarded as not-representative.

3. Separate the Banfield Freeway Vehicle Lane Counts into A.M. and P.M. groups per month by dates and then find and enter the Peak Hour Count on each sheet by adding the two one-half hour counts during the Peak Hour Period for the following:

   a. Westbound (7-8 A.M.)

      1) HOV Lane

      2) Center Lane

      3) Right Lane

   b. Eastbound (4:30-5:30 P.M.)

      1) HOV Lane

      2) Center Lane

      3) Right Lane

4. Find the Average Peak Hour Lane Count for each individual lane (A-3-a, 1 thru 3, and A-3-b, 1 thru 3) by adding all the daily Peak Hour totals per lane and dividing by the number of daily totals added together.

5. Enter the Average Peak Hour Lane Counts under A-4 above on the Current Banfield Freeway Traffic Study Report Summary Sheet as follows:

   a. Peak Hour Lane Counts at 47th Westbound

      1) HOV Lane

      2) HOV Lane carpools (found by using Task A-11)

      3) Center Lane

      4) Right Lane

      5) Total (found by adding the Peak Hour Counts for the HOV Lane, Center Lane, and Right Lane)

   b. Peak Hour Lane Counts at 47th Eastbound

      1) Repeat Part A-5-a, 1 thru 5 using Eastbound instead of Westbound.

EVALUATION OF PREFERENTIAL LANES FOR HIGH-OCCUPANCY VEHICLES ON THE BANFIELD FREEWAY PORTLAND, OREGON

TASK A-4 (Office Supplement No. 1)

BANFIELD FREEWAY VEHICLE OCCUPANCY COUNTS PROCESSING FOR OCCUPANCY RATES

PURPOSE

To obtain in usable form the needed data for Vehicle Occupancy Rates from the raw data collected for the Banfield Monitoring Program.

TIME

Processing of the Vehicle Occupancy Counts for the Vehicle Occupancy Rate will be made as soon after the collection of the data as permitted by the testing schedule.

PLACE

William McConnel's offic in Room 42 of the Oregon State Highway Division's Building at 5821 N.E. Glisan St., Portland, Oregon.

EQUIPMENT REQUIRED

A. The Banfield Freeway Vehicle Occupancy Count Sheets.

B. Adding machine, calculator, etc.

C. Pencils and/or pens

D. The Current Banfield Freeway Traffic Study Report summary sheet.

PROCEDURE

A. Determine the average number of one, two, and three-or-more Occupant Vehicles using the HOV Lanes and the non-HOV Lanes of the Banfield Freeway during peak rush hours.

1. Look through the filled out count sheets for any problems that are noted and/or made by the original recorder in the comments column.

2. If any severe problems have occurred during any of the counting periods, the period is not used.

3. On each sheet using the three 10-minute periods of counting during the Peak Hours (7-8 A.M. & 4:30-5:30 P.M.); total the number of one, two, and three-or-more occupant vehicles and multiply by two to bring them to a full hour count and record on the daily sheets

BANFIELD FREEWAY VEHICLE OCCUPANCY COUNTS PROCESSING FOR OCCUPANCY RATES

PROCEDURE (cont.)

4. Separate the vehicle occupancy count sheets by westbound A.M. and eastbound P.M. time periods.

5. Find the average number per Peak Hour of One, Two, and Three or more Occupant vehicles per HOV Lane and non-HOV Lane by averaging the three day count periods.

B. Determine Peak Hour Occupancy Rates for Westbound (A.M.) using Westbound (A.M.) Occupancy Count Sheets as follows:

1. Find the Peak Hour Occupancy Rate People using the HOV Lane by summing the average Peak Hour Totals of One Occupant Vehicles times one plus Two-Occupant Vehicles times two plus three-or-more Occupant vehicles times three divided by the total number of vehicles recorded in the HOV Lane.

2. Find the Peak Hour Occupancy Rate of people using the non-HOV Lanes by summing the average Peak Hour Totals of One Occupant Vehicles times one plus Two Occupant Vehicles times two plus Three-or-More Occupant Vehicles times three divided by the total number of vehicles recorded in the non-HOV Lanes.

3. Find the Peak Hour Occupancy Rate of all people using the Westbound lanes by summing the average Peak Hour Totals of One Occupant Vehicles times one plus Two Occupant Vehicles times two plus Three-or-more Occupant Vehicles times three divided by the total number of vehicles recorded in both the HOV and non-HOV Lanes.

C. Determine Peak Hour Occupancy Rates for Eastbound (P.M) by following the procedure B-1 thru B-3 using Eastbound (P.M.) Occupancy Count Sheets.

EVALUATION OF PREFERENTIAL LANES FOR HIGH-OCCUPANCY VEHICLES ON THE BANFIELD FREEWAY PORTLAND, OREGON

TASK A-4 (Office Supplement No. 2)

BANFIELD FREEWAY PEAK HOUR PERSON PER LANE

PURPOSE

To obtain the Peak Hour Person per Lane from the raw data collected for the Banfield Monitoring Program.

TIME

Processing of the Peak Hour Person Per Lane total will be made as soon after the collection of the data as permitted by the testing schedule and after current peak hour occupancy rate and peak hour lane counts at 47th have been completed and added to the Current Banfield Freeway Traffic Study Report Summary Sheet.

PLACE

William McConnel's office in Room 42 of the Oregon State Highway Division's Building at 5821 N.E. Glisan St., Portland Oregon

EQUIPMENT REQUIRED

A. The current Banfield Freeway Traffic Study Report Summary Sheet.

B. Adding machine, calculator, or etc.

C. Pencil and/or pen.

PROCEDURE

A. Computation of Peak Hour Person Per Lane, Westbound (7-8 A.M.)

1. HOV Lane Transit Persons

   a. This is the total number of patrons riding the Tri-Met buses, both regular and Flyer buses, in the HOV Lane. This information is furnished by Tri-Met.

   b. Enter this data for HOV Lane Transit, Westbound, on the Banfield Freeway Traffic Study Report Summary Sheet.

BANFIELD FREEWAY PEAK HOUR PERSONS PER LANE

PROCEDURES (Cont)

2. HOV Lane Carpool Persons.

   a. Multiply HOV Lane Carpools Westbound from the Peak Hour Vehicle Lane Count at 47th by three.

   b. Enter this for HOV Lane Carpool Persons Westbound on the Banfield Freeway Traffic Study Report Summary Sheet.

3. HOV Lane Total Persons

   a. Add together the following:

      1) HOV Lane Transit Persons from A-1-a.

      2) HOV Lane Carpool Persons from A-2-a.

4. HOV Lane People Violators, Westbound.

   a. Multiply the Peak Hour Occupancy Rate for the Westbound HOV Lane by the Peak Hour Vehicle Lane Count for the Westbound HOV Lane.

   b. Subtract Peak Hour Person Per Lane for Westbound HOV Lane Carpool persons found in Part A-2-a from the product found above in Part A-4-a.

   c. Enter HOV Lane People violators, Westbound, on the Banfield Feeway Traffic Study Report summary sheet.

5. Center Lane

   a. Multiply Peak Hour Occupancy Rate for Westbound Center and Right Lanes by Peak Hour Vehicle lane count for Westbound Center Lane.

   b. Enter in Peak Hour Person Per Lane for Westbound Center Lane on the Banfield Freeway Traffic Study Report Summary Sheet.

6. Right Lane

   a. Multiply Peak Hour Occupancy Rate for Westbound Center and Right Lanes by Peak Hour Vehicle Lane Count for Westbound Right Lane

   b. Enter in Peak Hour Persons Per Lane for Westbound Right Lane on the Banfield Freeway Traffic Study Report Summary Sheet.

BANFIELD FREEWAY PEAK HOUR PERSONS PER LANE

PROCEDURE (Cont.)

7. Total Number of Persons Using the Banfield

   a. Add together the following:

      1) Westbound HOV Lane Transit Persons (A-1-a).

      2) Westbound HOV Lane Carpool Persons (A-2-a).

      3) Westbound HOV Lane Violators (A-4-b).

      4) Westbound Center Lane (A-5-a).

      5) Westbound Right Lane (A-6-a).

   b. Enter in Peak Hour persons Per Lane for Westbound Total on the Banfield Freeway Traffic Study Report Summary Sheet.

B. Computation of Peak Hour Persons Per Lane, Eastbound (4:30-5:30 P.M.)

   1. Repeat all of A-1 thru 7 substituting Eastbound for Westbound in all places.

EVALUATION OF PREFERENTIAL LANES FOR HIGH-OCCUPANCY VEHICLES ON THE BANFIELD FREEWAY PORTLAND, OREGON

TASK A-5 (Office Supplement)

SUNSET HIGHWAY PEAK HOUR VEHICLES OCCUPANCY COUNTS PROCESSING

PURPOSE

To determine the percentages and the occupancy rates for vehicles carrying one, two, and three-or-more occupants on the Sunset Highway. This is for the comparison of a major East/West highway with the Banfield Freeway during the Peak Hours.

TIME

After the completion of the occupancy count, the percentages and rates should be calculated as soon as the work load will permit.

PLACE

William McConnel's office in Room 42 of the Oregon State Highway Division Building at 5821 N.E. Glisan St., Portland Oregon.

EQUIPMENT REQUIRED

A. Sunset Highway Vehicle Occupancy Count Sheets

   1. Eastbound (A.M. Sheets)

   2. Westbound (P.M. Sheets)

B. Adding Machine, Calculator, or etc.

C. Pencil and/or pen

D. Current Banfield Freeway Traffic Study Report Summary Sheet.

PROCEDURE

A. Determination of Average number of One, Two, and Three-or-more Occupant Vehicles per Peak Hour.

   1. Eastbound

      a. Separate out the A.M. sheets (Usually two, maybe more).

      b. Check the A.M. sheets' comment column for any problems that may have occurred.

SUNSET HIGHWAY PEAK HOUR VEHICLE OCCUPANCY COUNT PROCESSING

PROCEDURE (Cont.)

c. On each A.M. sheet, total the three ten-minute periods during the peak hour (7-8 AM) and multiply each by 2 (if two 10-minute periods used, multiply by 3; if one 10-minute period used, multiply by 6) to make them into Full Hour Counts for each of the following:

1) One Occupant Vehicles

2) Two Occupant Vehicles.

3) Three-or-more Occupant Vehicles

d. Make a summary of all the A.M. sheets for:

1) One Occupant Vehicles

2) Two Occupant Vehicles

3) Three-or-more Occupant Vehicles

e. Using the Full Hour Occupancy Count totals of the A.M. vehicles found in Part A-1-d-(1 thru 3), find the total number of One, Two, and Three-or-more Occupant Vehicles.

2. Westbound

a. In Part A-1a thru e, substitute the following:

1)"Westbound" for "Eastbound"

2) "P.M." for "A.M."

b. Perform Part A-1-a thru 2 using the above changes.

B. Determination of Percentage of Peak Hour Vehicle Occupancy

1. Eastbound

a. To find the percentage of One Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of One Occupant Vehicles in the A.M. as found in Part A-1-d-1) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part A-1-e, and multiply by 100 for the percentage using the Sunset Highway in the A.M.

SUNSET HIGHWAY PEAK HOUR VEHICLE OCCUPANCY COUNT PROCESSING

PROCEDURE (Cont.)

b. To find the percentage of Two Occupant A.M. Vehicles, divide the Full Hour Occupancy Count of Two Occupant Vehicles in the A.M. as found in Part A-1-d-2) by the total number of One, Two and three-or-more Occupant Vehicle, which was found in Part A-1-e, and multiply by 100 for the percentage using the Sunset Highway in the A.M.

c. To find the percentage of Three-or-more Occupant A.M. Vehicles, divide the Full Hour Count by Three-or-more Occupant Vehicles in the A.M. as found in Part A-1-d-3) by the total number of One, Two, and Three-or-more Occupant Vehicles, which was found in Part A-1-e and multiply by 100 for the percentage using the Sunset Highway in the A.M.

d. Enter the percentages found in Part B-1-a thruc in the proper place on the current Banfield Freeway Traffic Study Report Summary Sheet.

2. Westbound

a. In Part B-1-a thru d change A.M. to P.M.

b. Perform Part B-1-a thru d using the above changes.

C. Determination of Occupancy Rates

1. Eastbound

a. Find the total number of persons traveling in the One Occupant Vehicles in the A.M. by multiplying the sum found in Part A-1-d-1) for the A.M. times factor 1.

b. Find the total number of persons traveling in the Two Occupant Vehicles in the A.M. by Multiplying the sum found in Part A-1-d-3) times factor 2

c. Find the total number of persons traveling in the Three-or-more Occupant Vehicles in the A.M. by multiplying the sum found in Part A-1-d-3) times the factor 3.

d. Find the sum of the products found in Part C-1-a thru c.

e. Divide the sum found in Part C-1-d by the sum found in Part A-1-e. Enter answer on the current Banfield Freeway Traffic Report Summary sheet.

SUNSET HIGHWAY PEAK HOUR VEHICLES OCCUPANCY COUNT PROCESSING

PROCEDURE (Cont.)

2. Westbound

   a. Change A.M. to P.M. in Part C-1-a thru e.

   b. Perform Part C-1-a thru e using the above changes.

EVALUATION OF PREFERENTIAL LANES FOR HIGH-OCCUPANCY VEHICLES ON THE BANFIELD FREEWAY PORTLAND, OREGON

TASK A-6 (Office Supplement)

BANFIELD FREEWAY TIMED SPEED RUNS PROCESSING

PURPOSE

To convert the Timed Speed Runs field data for the Banfield Freeway into a usable form for the Banfield Monitoring Project.

TIME

After the completion of each month's timed speed runs on the Banfield Freeway, the data will be processed as soon as other scheduled activities will allow.

PLACE

William McConnel's office in Room 42 of the Oregon State Highway Division's Building at 5821 N.E. Glisan St., Portland, Oregon.

EQUIPMENT REQUIRED

A. The Banfield Freeway Timed Speed Run Sheets
   1. Westbound (use A.M. sheets only)
   2. Eastbound (use P.M. sheets only)

B. Adding machine, calculator, or etc.

C. Pencils and/or pens

D. Current Banfield Freeway Traffic Study report summary sheets.

PROCEDURE

A. Determination of the Average Speed per run.
   1. Westbound (A.M. sheets only)
      a. Separate the sheets by date
      b. Separate each date into three groups as follows:
         1) HOV Lane
         2) Center Lane
         3) Right lane

BANFIELD FREEWAY TIMED SPEED RUNS PROCESSING

PROCEDURE (CONT)

c. Compute the average M.P.H. for each sheet as follows:

1) Convert the minutes and seconds that the run took into decimals of an hour.

2) Divide the decimal of an hour into the overall distance of the run.

3) Record the average M.P.H. of the run on the bottom of the sheet.

2. Eastbound (P.M. sheets only)

a. Follow the procedure set forth in Part A, 1, a thru c.

B. Determination of Peak Hour Average Speeds.

1. Westbound (A.M.runs only which were previously separated).

a. HOV Lane Peak Hour Average Speed.

1) Use only those sheets with a starting time within the Peak Hour (7-8 A.M.).

2) Check the comments column for possible causes that could influence the flow of traffic adversely. I.G. Accidents.

3) If the flow has been influenced, that sheet is not to be used.

4) Total the average M.P.H. recorded on the sheets for the Peak Hour (7-8 A.M.).

5) Divide the total of the average M.P.H.'s by the number of averages used.

6) Enter the Average Peak Hour Speed in the proper place on the Banfield Freeway Traffic Study report summary sheets.

b. Center Lane Peak Hour Average Speed.

1) Follow the procedure set forth in Part B, 1, a, 1) thru 6).

c Right Lane Peak Hour Average Speed.

1) Follow the procedure set forth in Part B, 1, a, 1) thru 6).

BANFIELD FREEWAY TIMED SPEED RUNS PROCESSING

PROCEDURE (CONT.)

d. Total (W/O HOV Lane) Peak Hour Average Speed.

1) Add the total of the average M.P.H.'s of the Center Lane to the total of the average M.P.H.'s of the Right Lane.

2) Add the total number of runs used for the Center Lane to the total number of runs used for the Right Lane.

3) Divide the sum found in 1) above by the sum found in 2) above.

4) Enter answer under "Peak Hour Average Speed for Westbound Total (w/o HOV Lane)" on the Banfield Freeway Traffic Study report summary sheets.

2. Eastbound (P.M. runs only which were previously separated).

a. Follow the procedure outlined in Part B, 1, a thru d-3) using Eastbound data (P.M. runs only).

b. Enter the answer under "Peak Hour Average Speed for Eastbound Total (w/o HOV Lane)" on the Banfield Freeway Traffic Study report summary sheets.

C. Place all of the Timed Speed Run Sheets in the file titled "Banfield Monitoring-Timed Speed Runs" in the proper date sequence.

EVALUATION OF PREFERENTIAL LANES FOR HIGH-OCCUPANCY VEHICLES ON THE BANFIELD FREEWAY PORTLAND, OREGON TASK A-7 (OFFICE SUPPLEMENT)

ARTERIAL STREETS TIMED SPEED RUNS PROCESSING

PURPOSE

To convert the timed speed runs field data for arterial streets into a usable form for correlation with the Banfiel Freeway Monitoring Program.

TIME

After the completion of each month's Timed Speed Runs on the Arterial Streets, the data will be processed as soon as other activities will allow.

PLACE

William McConnel's office in Room 42 of the Oregon State Highway Division's Building at 5821 N.E. Glisan Street, Portland, Oregon.

EQUIPMENT REQUIRED

A. Arterial Street Timed Speed Runs for:

1. Westbound
   a. Sandy Boulevard
   b. Burnside
   c. Broadway
2. Eastbound
   a. Sandy Boulevard
   b. Burnside
   c. Weidler

B. Adding machine, calculator, etc.

C. Pencil and/or pen

PROCEDURE

A. Initial Processing of timed speed runs

1. Westbound
   a. Sandy Boulevard

IMI

ARTERIAL STREETS TIMED SPEED RUNS PROCESSING PROCEDURE (CONT.)

b. Burnside

c. Broadway

2. Eastbound

a. Sandy Boulevard

b. Burnside

c. Weidler

3. For each arterial street, separate the sheets by the day and direction as listed in Parts A-1 and 2.

4. Calculate the intermediate time for each check point as follows:

a. Subtract the clock reading of the smallest time from the larger time.

b. Convert the time from minutes and seconds to decimals of an hour.

c. Enter the calculated time on the Timed Speed run sheet in the first Calculated Time Column opposite the line dividing the two check points.

d. Continue repeating steps in Parts A-4-a thru c. until all intermediate times have been calculated for all sheets.

B. Determination of Average Timed Speed Runs at selected locations.

1. Method of calculating M.P.H. between two check points.

a. Pick the calculated time between the two check points.

1) If the check points are one after the other, use the decimal of an hour that was calculated previously.

2) If the check points have one or more check points between them, use the sum of the decimals of an hour of all the calculated times between the check points for which the Average M.P,H. is to be found.

b. Subtract the smaller mile point from the larger mile point to obtain the distance between the two check points.

ARTERIAL STREETS TIMED SPEED RUNS PROCESSING PROCEDURE (CONT.)

c. Divide the distance in miles by the time in hours to get M.P.H.

2. Using the method outlined in Part B-1-a. thru c., calculate the M.P.H. for each of the following locations on each sheet:

a. Westbound (A.M. Sheets)

1) 41st & Sandy Blvd.

2) 21st & Sandy Blvd.

3) Burnside (the complete run)

4) Broadway (the complete run)

b. Eastbound (P.M. Sheets)

1) 21st & Sandy Blvd.

2) 41st & Sandy Blvd.

3) Burnside (the complete run)

4) Weidler (the complete run)

3. Record the M.P.H in the comments section opposite the proper check point

4. File the Arterial Timed Speed Runs in their appointed cabinet for future reference.

EVALUATION OF PREFERENTIAL LANES FOR HIGH-OCCUPANCY VEHICLES ON THE BANFIELD FREEWAY PORTLAND, OREGON

TASK A-10

CALCULATION OF HOV LANE VIOLATORS

PURPOSE

To obtain the number of persons and vehicles violating the HOV Lane during the Peak Hours (7-8 A.M & 4:30-5:30 P.M.) from data collected and/or processed for the Banfield Monitoring Program.

TIME

Calculations of the number of person violating the HOV Lane is to be performed after the processing of the Vehicle Lane Counts and Vehicle Occupancy Counts.

PLACE

William McConnel's office in Room 42 of the Oregon State Highway Division's Building at 5821 N.E. Glisan St., Portland, Oregon.

EQUIPMENT REQUIRED

A. Current Banfield Freeway Traffic Study Report Summary Sheet.

B. Banfield Freeway Vehicle Occupancy Count Sheets for the HOV Lane (Westbound 7-8 A.M. and Eastbound 4:30-5:30 P.M.).

C. Adding machine, calculator, or etc.

D. Pencils and/or pens

PROCEDURE

A. Determination of number of persons violating the HOV Lane during the Peak Hour Westbound (7-8 A.M.).

1. Using the Banfield Freeway Vehicle Occupancy Count sheet for the HOV Lane, find the following:

a. The sum of the total of one occupant vehicles plus the total of two occupant vehicles times two.

CALCULATION OF HOV LANE VIOLATORS

PROCEDURE (Cont.)

b. Total the number of persons by taking the total number of one occupant vehicles times one plus the total number of two occupant vehicles times two plus the total number of three occupant vehicles times three.

c. Divide the sum found in A-1-a by the sum found in A-1-b.

2. From the current Banfield Freeway Traffic Study Report Summary Sheet, use the peak hour vehicle count at 47th for Westbound HOV Lane.

3. Multiply the quotient from A-1-c times the number found in A-2.

4. Enter in Peak Hour Person at 47th Westbound HOV Lane Violators on the current Banfield Freeway Traffic Study Report Summary Sheet.

B. Determination of the number of persons violating the HOV Lane during the peak hour Eastbound (4:30-5:30 P.M.)

1. Repeat the procedure A-1 thru A-4 using the Eastbound sheets.

C. Determination of the number of vehicles violating the HOV Lane Westbound (7-8 A.M.)

1. Using the Banfield Freeway Vehicle Occupancy Count Sheets for HOV peak hour Westbound (7-8 A.M.) find the following:

a. Total number of one occupant vehicles plus the total number of two occupant vehicles

b. Total number of three-or-more occupant vehicles plus the sum found in C-1-a.

c. Divide the sum found in C-1-a by the sum found in C-1-b.

2. From the Current Banfield Freeway Traffic Study Report Summary Sheet, find the Peak Hour Vehicle count at 47th for Westbound HOV Lane.

3. Multiply quotient found in C-1-c by number found in C-2.

4. Record on current Banfield Freeway Traffic Study Report Summary Sheet.

CALCULATION OF HOV LANE VIOLATORS

PROCEDURE (Cont.)

D. Determination of the number of vehicles violating the HOV Lane Eastbound (4:30-5:30 P.M.)

1. Repeat the procedure C-1 thru C-4 substituting Eastbound for Westbound in all places.

EVALUATION OF PREFERENTIAL LANES FOR HIGH-OCCUPANCY VEHICLES ON THE BANFIELD FREEWAY PORTLAND, OREGON

TASK A-11

CALCULATION OF CARPOOLS

PURPOSE

To determine the number of Carpools traveling the HOV Lane during the peak hours (7-8 A.M. and 4:30-5:30 P.M.)

TIME

Calculation of the number of carpools in the HOV Lane is to be performed after the processing of the Vehicle Lane Counts and the Vehicle Occupancy Counts.

PLACE

William McConnel's office in Room 42 of the Oregon State Highway Division's Building at 5821 N.E. Glisan St., Portland, Oregon.

EQUIPMENT REQUIRED

A. Current Banfield Freeway Traffic Study Report Summary Sheet.

B. Banfield Freeway Vehicle Occupancy Count sheets for the HOV Lane (Westbound 7-8 A.M. & 4:30-5:30 P.M.)

C. Adding Machine, calculator, or etc.

D. Pencils and/or pens

PROCEDURE

A. Determination of the number of carpools using the HOV Lane during the Peak Hour Westbound (7-8 A.M.)

1. Using the Banfield Freeway Vehicle Occupancy Count sheets for the HOV Lane, westbound (7-8 A.M.) find the following:

   a. The number of persons in the three-or-more occupant vehicles by taking the total number of three-or- more occupant vehicles times 3.

   b. Total number of persons by summing the total number of one occupant vehicles times one plus the total number of two occupant vehicles times two plus the total number of three-or-more occupant vehicles times three.

CALCULATION OF HOV LANE CARPOOLS

PROCEDURE (Cont.)

c. Divide the product found in A-1-a by the sum found in A-1-b.

2. From the current Banfield Traffic Study Report Summary Sheet use the peak hour vehicle count at 47th for Westbound HOV Lane

3. Multiply the quotient found in A-1-c times the number found in A-2

4. Enter in Peak Hour Vehicle Lane count at 47th Westbound HOV Lane Carpools on the Banfield Freeway Traffic Study Report Summary sheet.

B. Determination of the number of carpools using the HOV Lane during the Peak Hour Eastbound (4;30-5:30 P.M.).

1. Repeat the procedure A-1 thru A-4 substituting Eastbound for Westbound in all places.

C. Determination of the number of carpools using all lanes during the peak hour Westbound (7-8 A.M.)

1. Using the Banfield Freeway Vehicle occupancy count sheets for Westbound (7-8 A.M.), find the following:

a. The number of persons in three-or-more occupant vehicle by multiplying the total number of three-or-more occupant vehicles times three.

b. Total number of persons by summing the total number of one occupant vehicles times one, plus the total number of two occupant vehicles times two plus the total number of three-or-more occupant vehicles times three.

c. Divide the product found in C-1-a by the sum found in C-1-b.

2. From the current Banfield Freeway Traffic Study Report Summary Sheet, obtain the Westbound total of the peak hour Vehicle Count at 47th.

3. Multiply the quotient found in C-1-c by the number found in C-2

4. Record on the Current Banfield Freeway Traffic study Report summary Sheet.

CALCULATION OF HOV LANE CARPOOLS

PROCEDURE (Cont.)

D. Determination of the number of carpools using all lanes during Peak Hour Eastbound (4:30-5:30 P.M.)

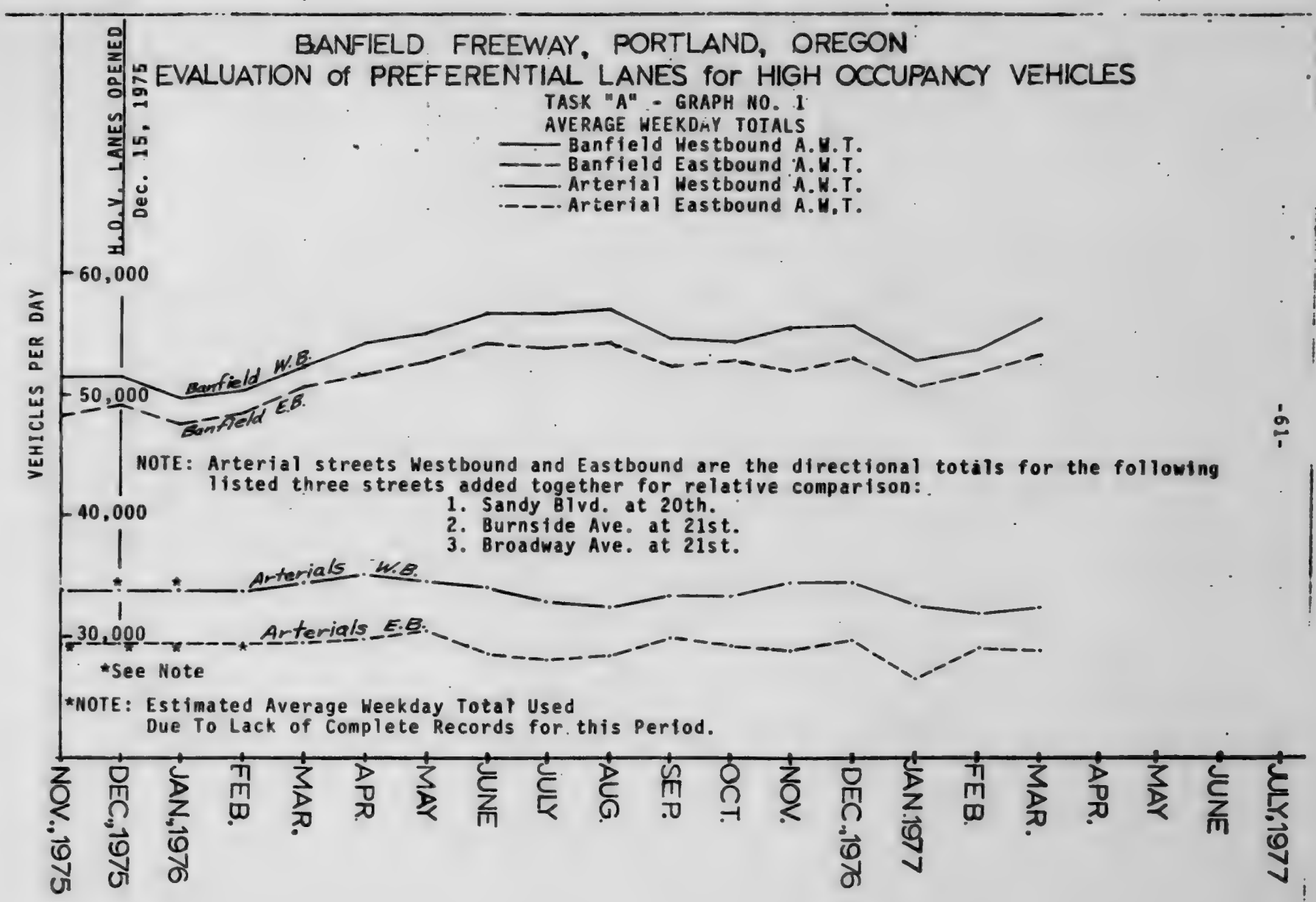
1. In procedure C-1 thru C-4, substitute Eastbound for Westbound and repeat the procedure.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 1

AVERAGE WEEKDAY TOTALS

——— Banfield Westbound A.W.T.
— — — Banfield Eastbound A.W.T.
——— Arterial Westbound A.W.T.
- - - - Arterial Eastbound A.W.T.



NOTE: Arterial streets Westbound and Eastbound are the directional totals for the following listed three streets added together for relative comparison:

1. Sandy Blvd. at 20th.
2. Burnside Ave. at 21st.
3. Broadway Ave. at 21st.

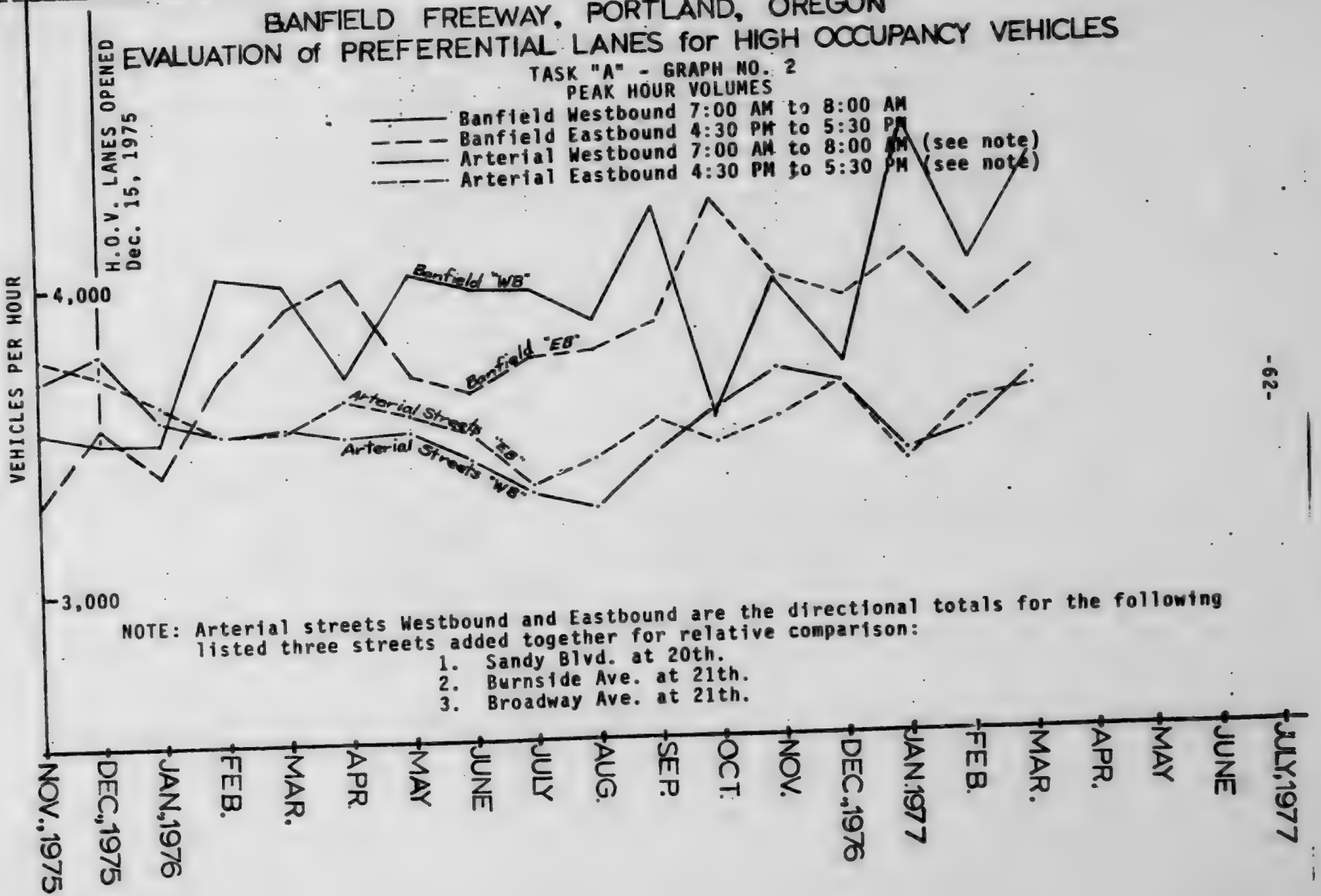
*NOTE: Estimated Average Weekday Total Used Due To Lack of Complete Records for this Period.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 2

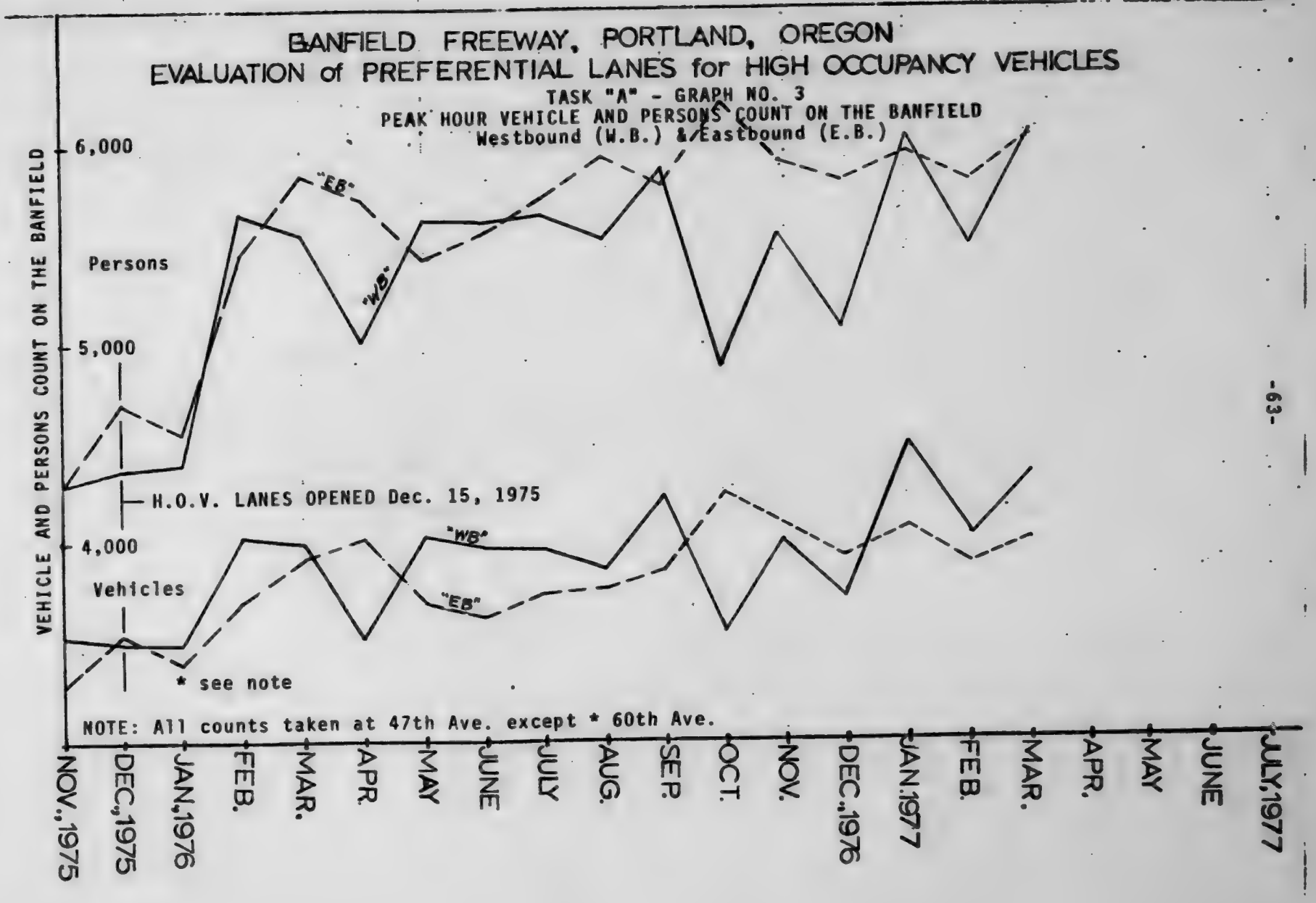
PEAK HOUR VOLUMES

——— Banfield Westbound 7:00 AM to 8:00 AM
– – – Banfield Eastbound 4:30 PM to 5:30 PM
——— Arterial Westbound 7:00 AM to 8:00 AM (see note)
– – – Arterial Eastbound 4:30 PM to 5:30 PM (see note)



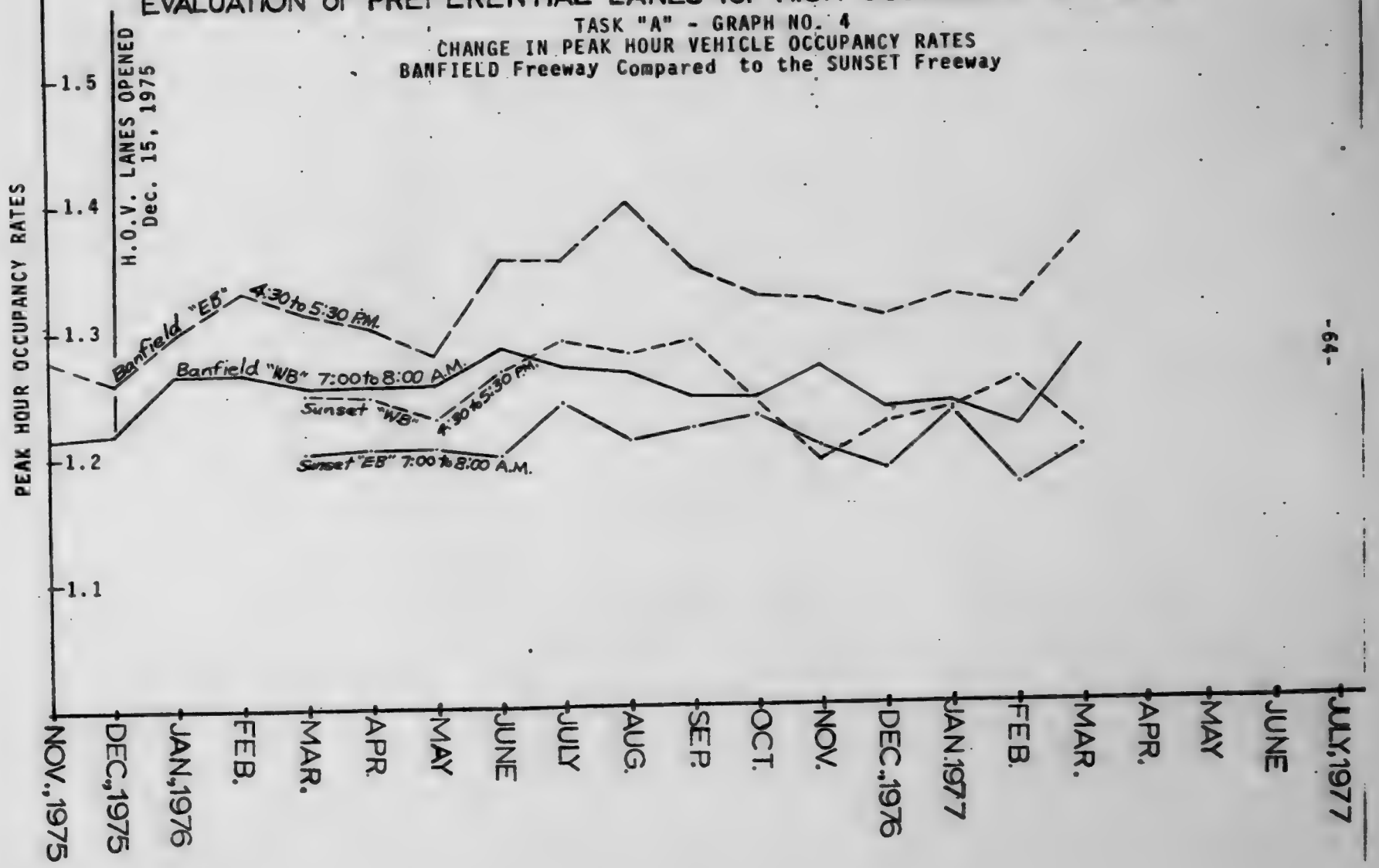
NOTE: Arterial streets Westbound and Eastbound are the directional totals for the following listed three streets added together for relative comparison:

1. Sandy Blvd. at 20th.
2. Burnside Ave. at 21th.
3. Broadway Ave. at 21th.

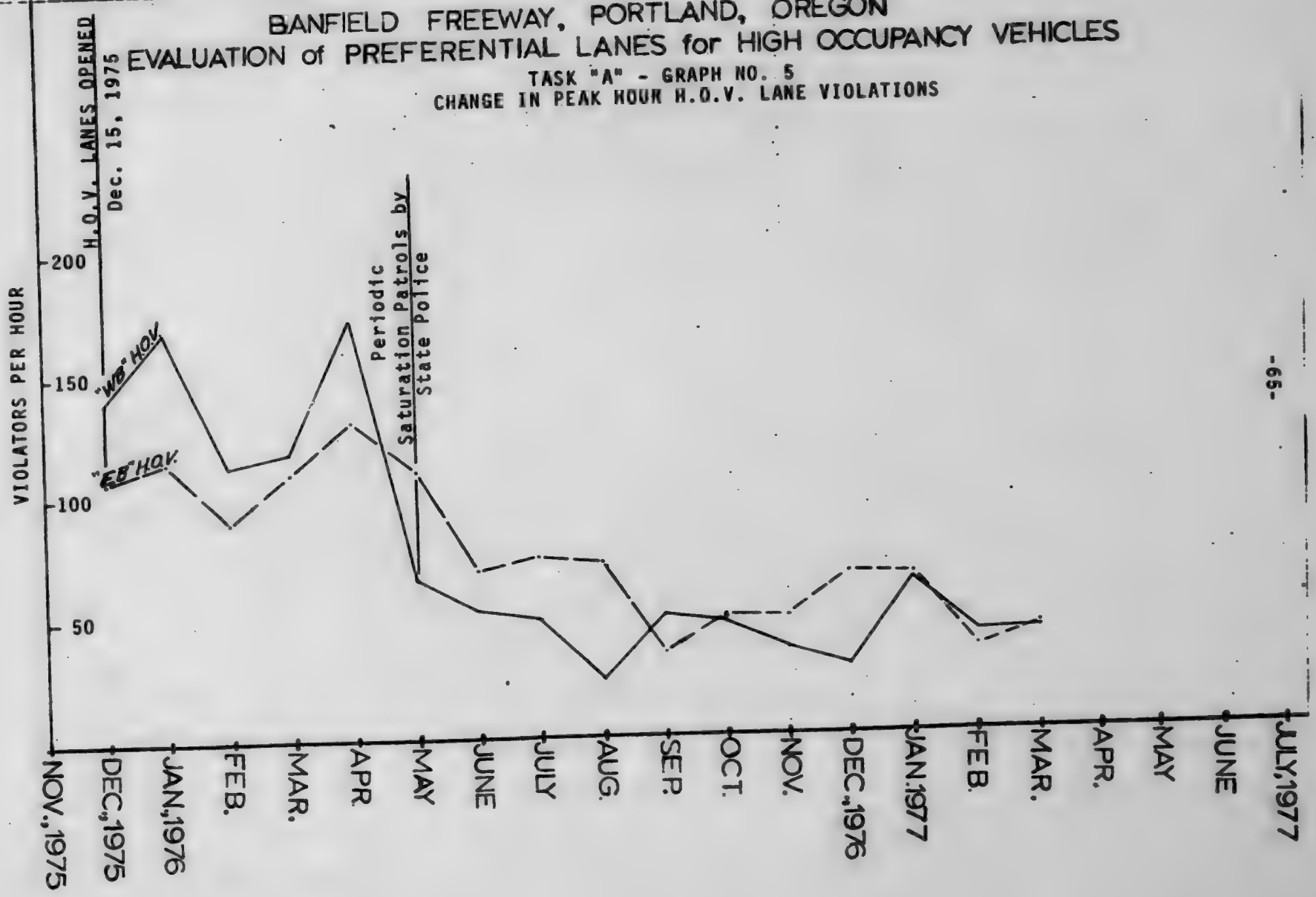

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
TASK "A" - GRAPH NO. 3
PEAK HOUR VEHICLE AND PERSONS COUNT ON THE BANFIELD
Westbound (W.B.) & Eastbound (E.B.)
VEHICLE AND PERSONS COUNT ON THE BANFIELD
6,000
Persons
5,000
4,000
Vehicles
"EB"
"WB"
H.O.V. LANES OPENED Dec. 15, 1975
"WB"
"EB"
* see note
NOTE: All counts taken at 47th Ave. except * 60th Ave.
NOV.,1975
DEC.,1975
JAN.,1976
FEB.
MAR.
APR.
MAY
JUNE
JULY
AUG.
SEP.
OCT.
NOV.
DEC.,1976
JAN.1977
FEB.
MAR.
APR.
MAY
JUNE
JULY,1977

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 4
CHANGE IN PEAK HOUR VEHICLE OCCUPANCY RATES
BANFIELD Freeway Compared to the SUNSET Freeway



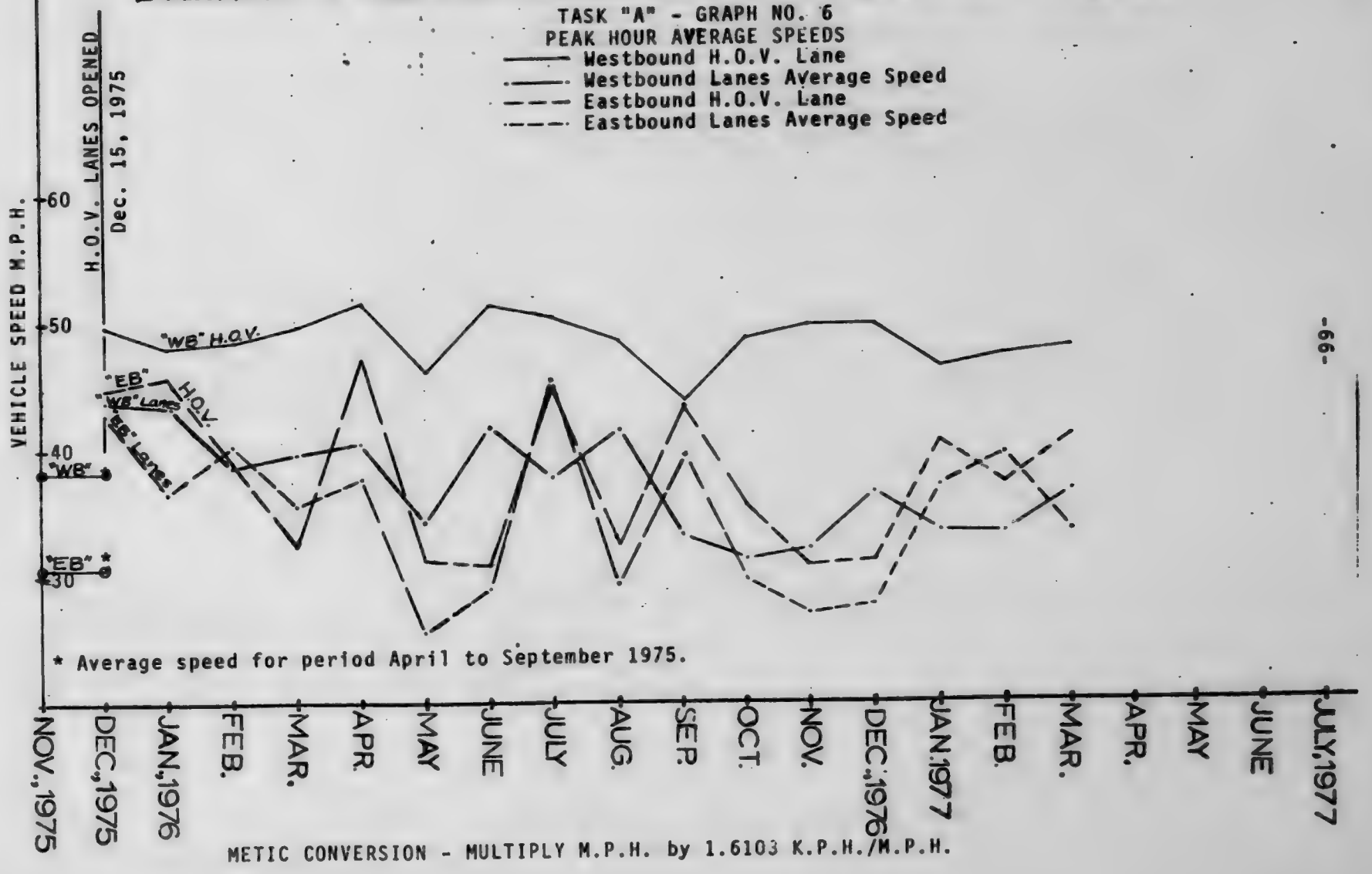
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
TASK "A" - GRAPH NO. 5
CHANGE IN PEAK HOUR H.O.V. LANE VIOLATIONS



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 6
PEAK HOUR AVERAGE SPEEDS

——— Westbound H.O.V. Lane
—·—· Westbound Lanes Average Speed
– – – Eastbound H.O.V. Lane
—··— Eastbound Lanes Average Speed



* Average speed for period April to September 1975.

METIC CONVERSION - MULTIPLY M.P.H. by 1.6103 K.P.H./M.P.H.

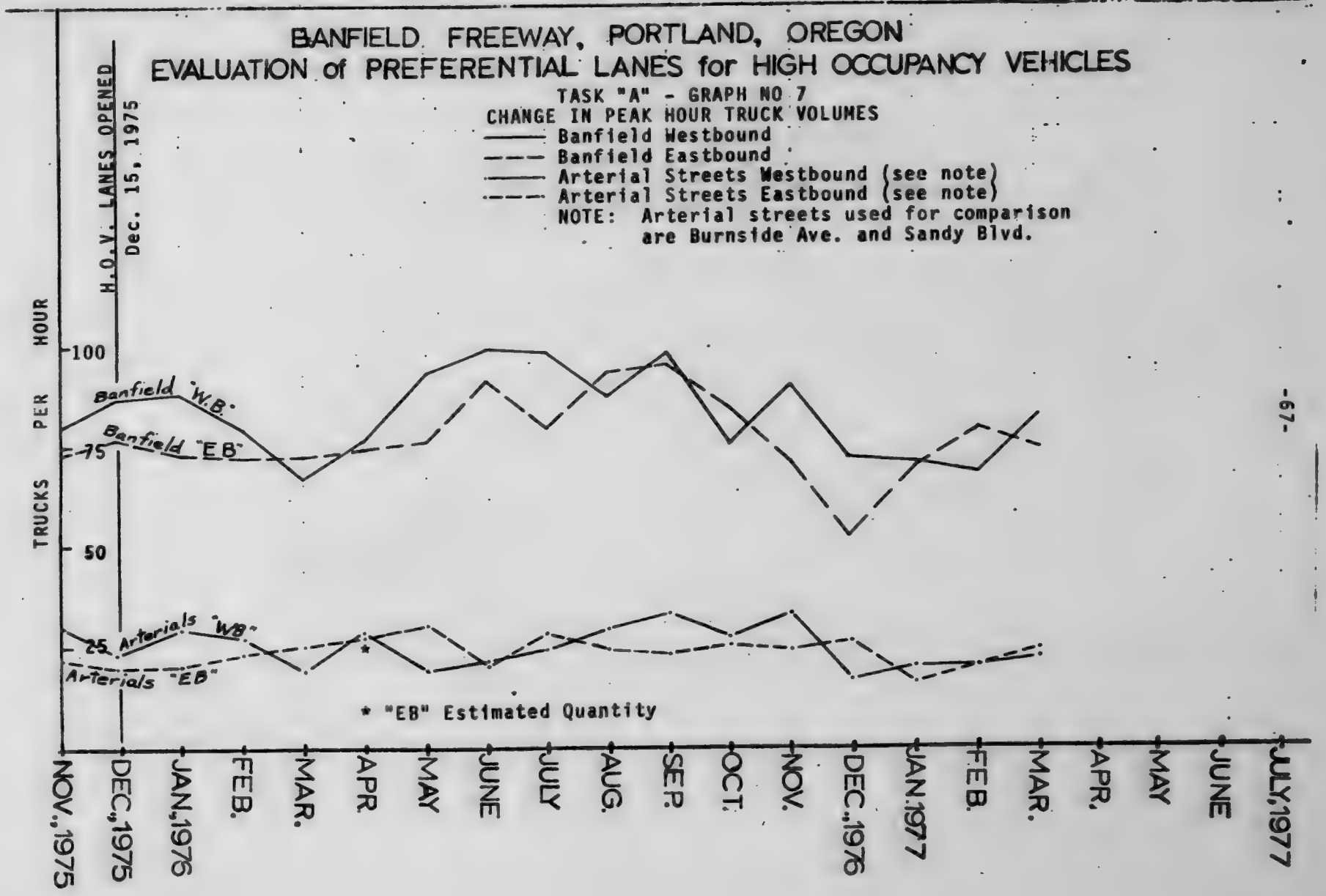
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO 7

CHANGE IN PEAK HOUR TRUCK VOLUMES

——— Banfield Westbound
– – – Banfield Eastbound
——— Arterial Streets Westbound (see note)
– – – Arterial Streets Eastbound (see note)

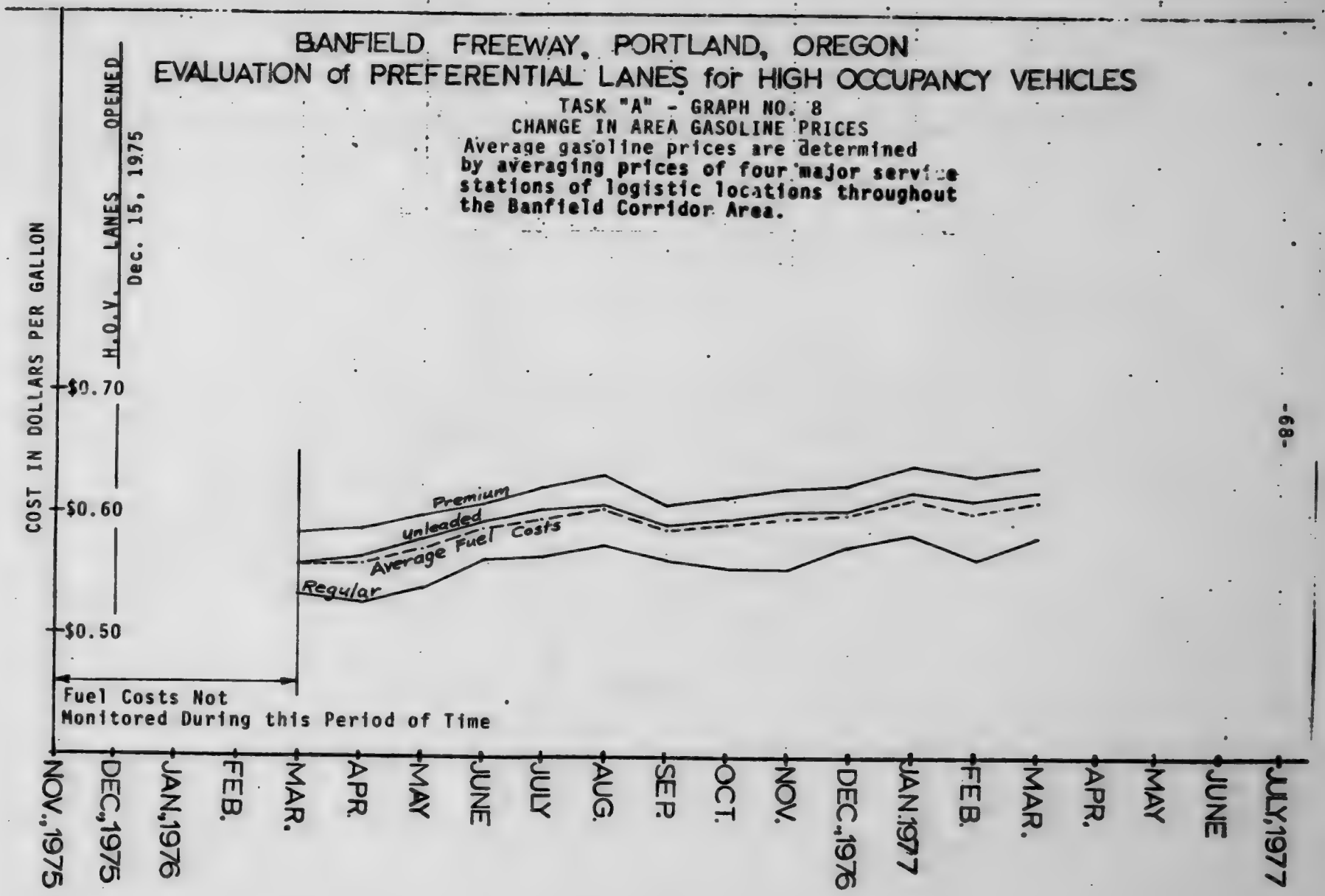
NOTE: Arterial streets used for comparison are Burnside Ave. and Sandy Blvd.



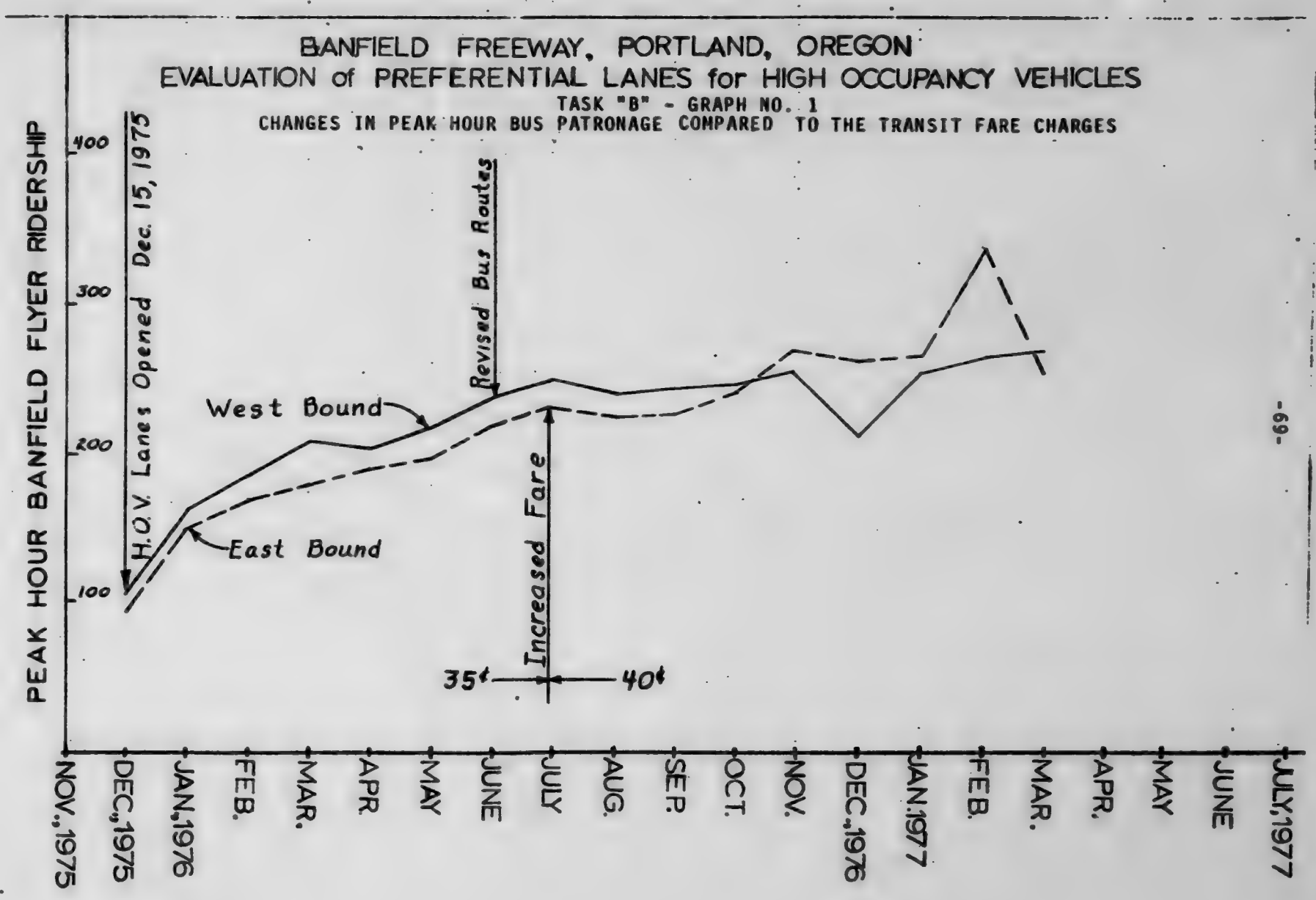
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 8
CHANGE IN AREA GASOLINE PRICES

Average gasoline prices are determined by averaging prices of four major service stations of logistic locations throughout the Banfield Corridor Area.

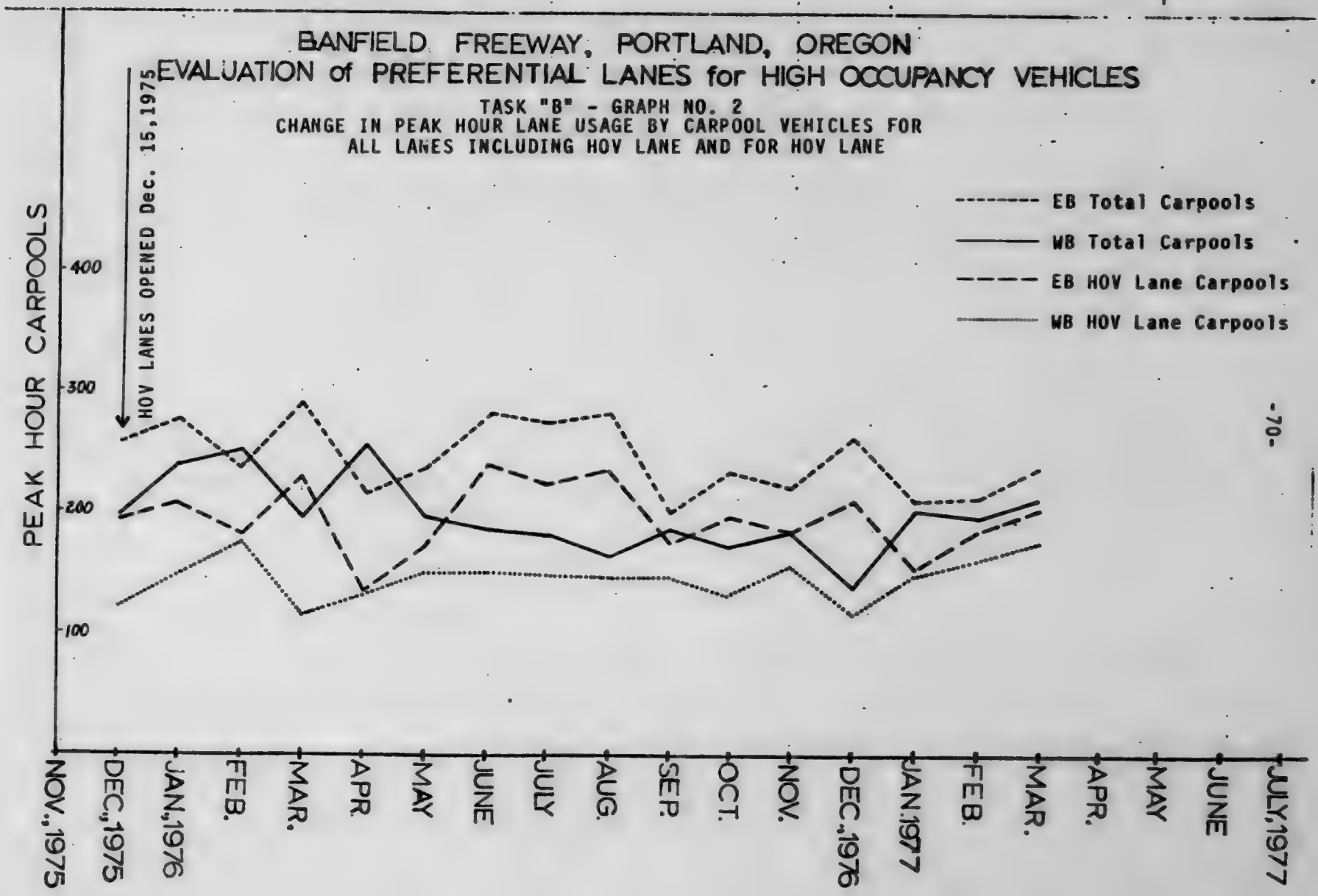


BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
TASK "B" - GRAPH NO. 1
CHANGES IN PEAK HOUR BUS PATRONAGE COMPARED TO THE TRANSIT FARE CHARGES

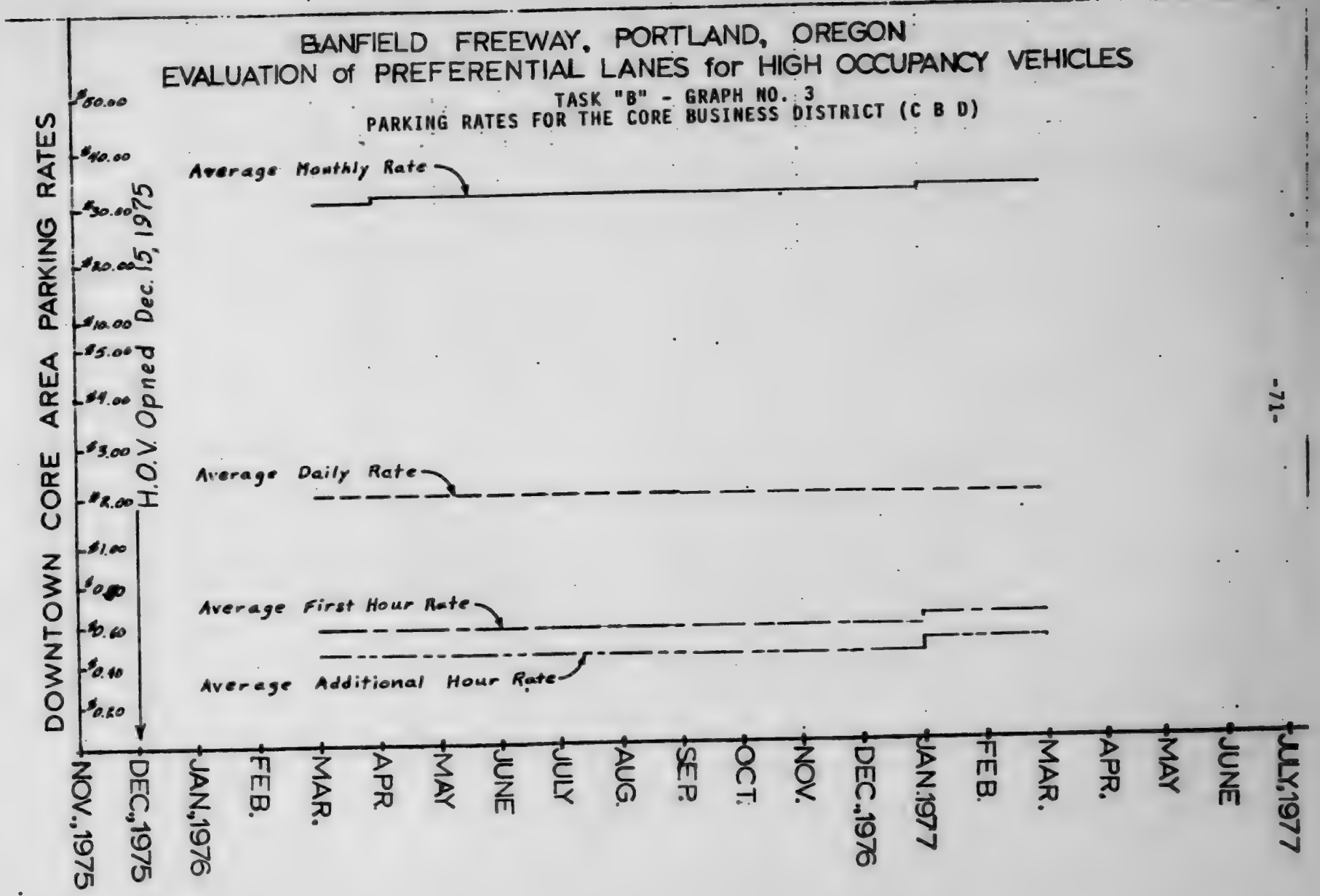


BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "B" - GRAPH NO. 2
CHANGE IN PEAK HOUR LANE USAGE BY CARPOOL VEHICLES FOR
ALL LANES INCLUDING HOV LANE AND FOR HOV LANE



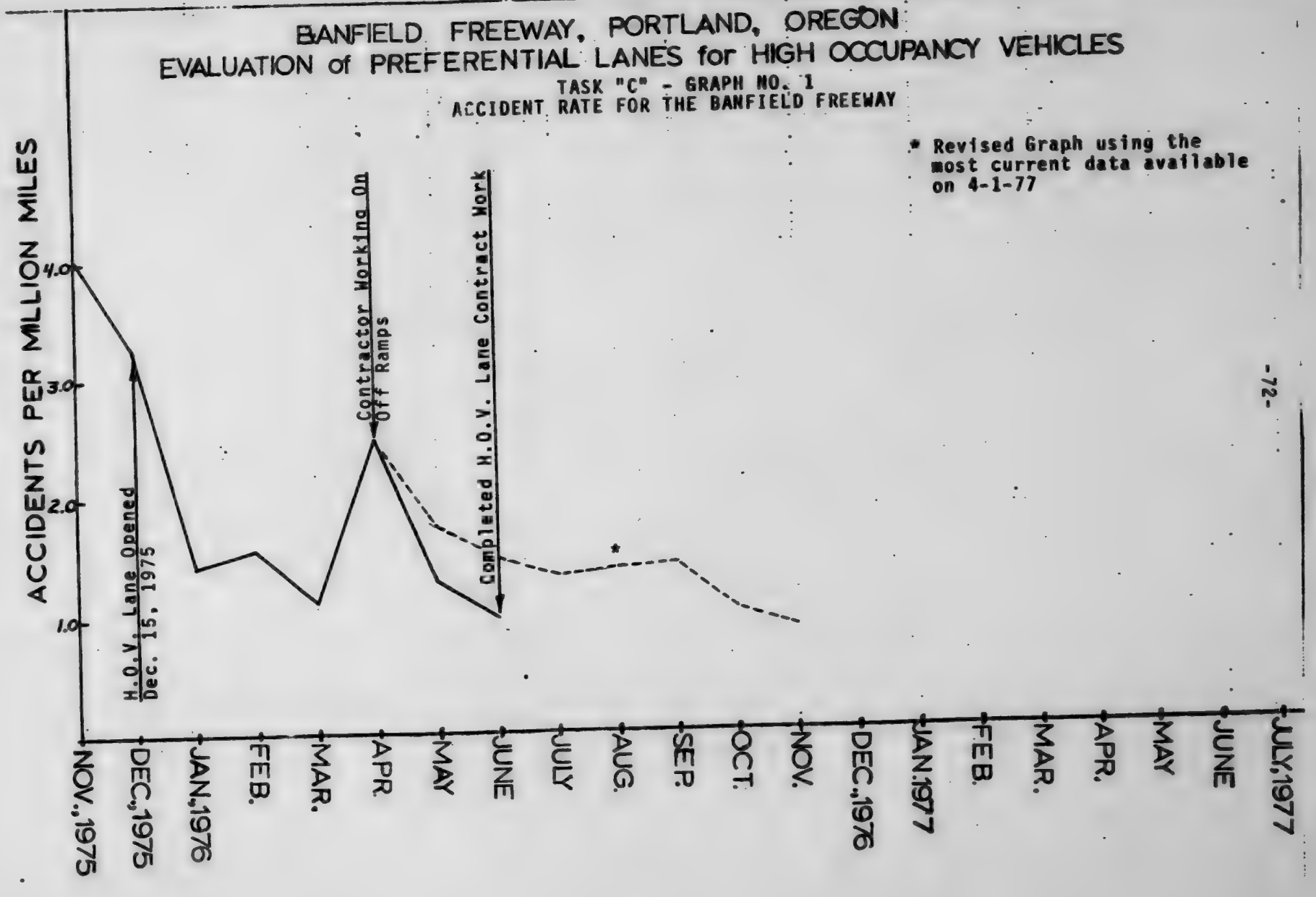
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
TASK "B" - GRAPH NO. 3
PARKING RATES FOR THE CORE BUSINESS DISTRICT (C B D)



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "C" - GRAPH NO. 1
ACCIDENT RATE FOR THE BANFIELD FREEWAY

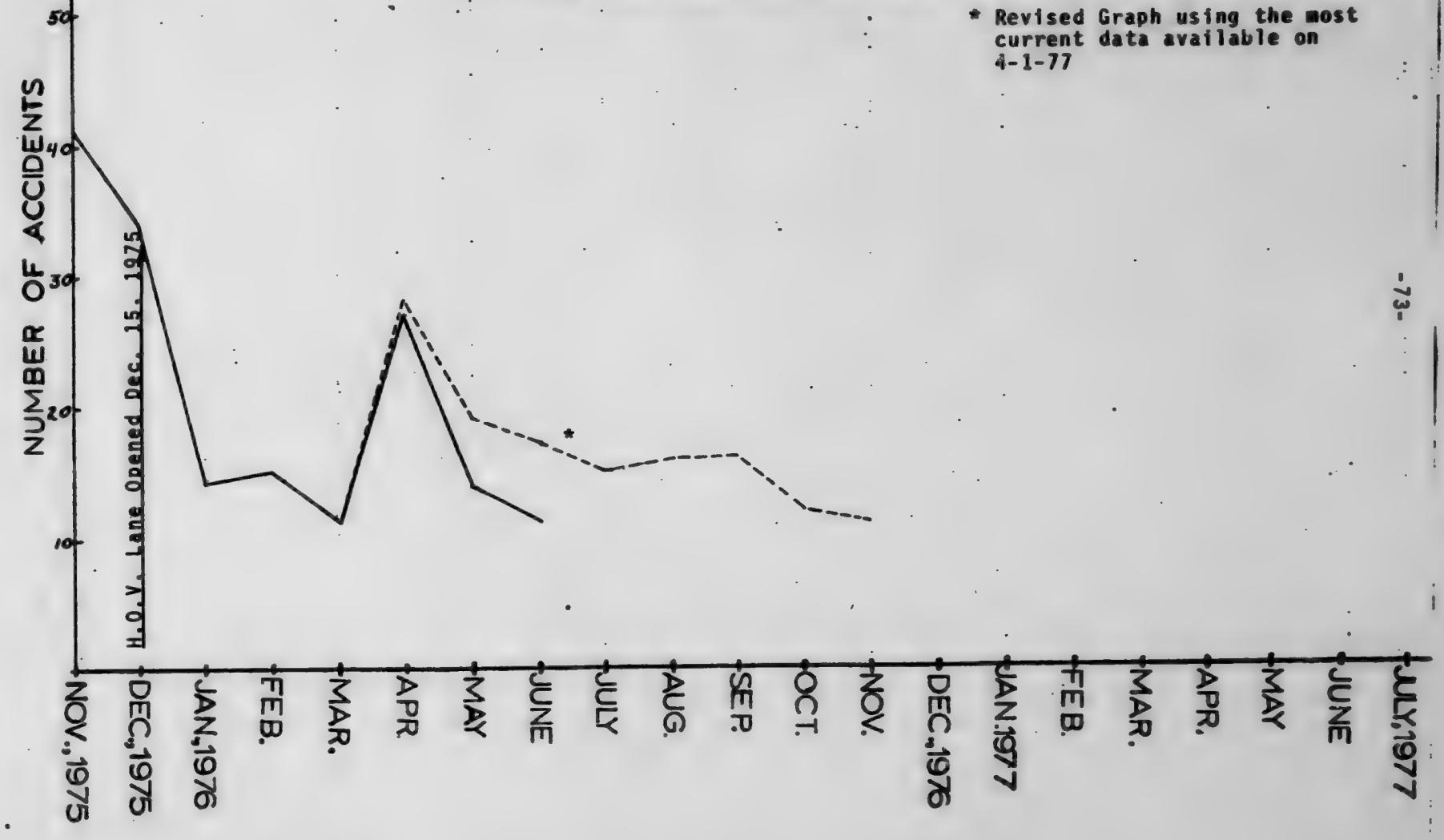
* Revised Graph using the most current data available on 4-1-77



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "C" - GRAPH NO. 2
RECORDED ACCIDENTS PER MONTH

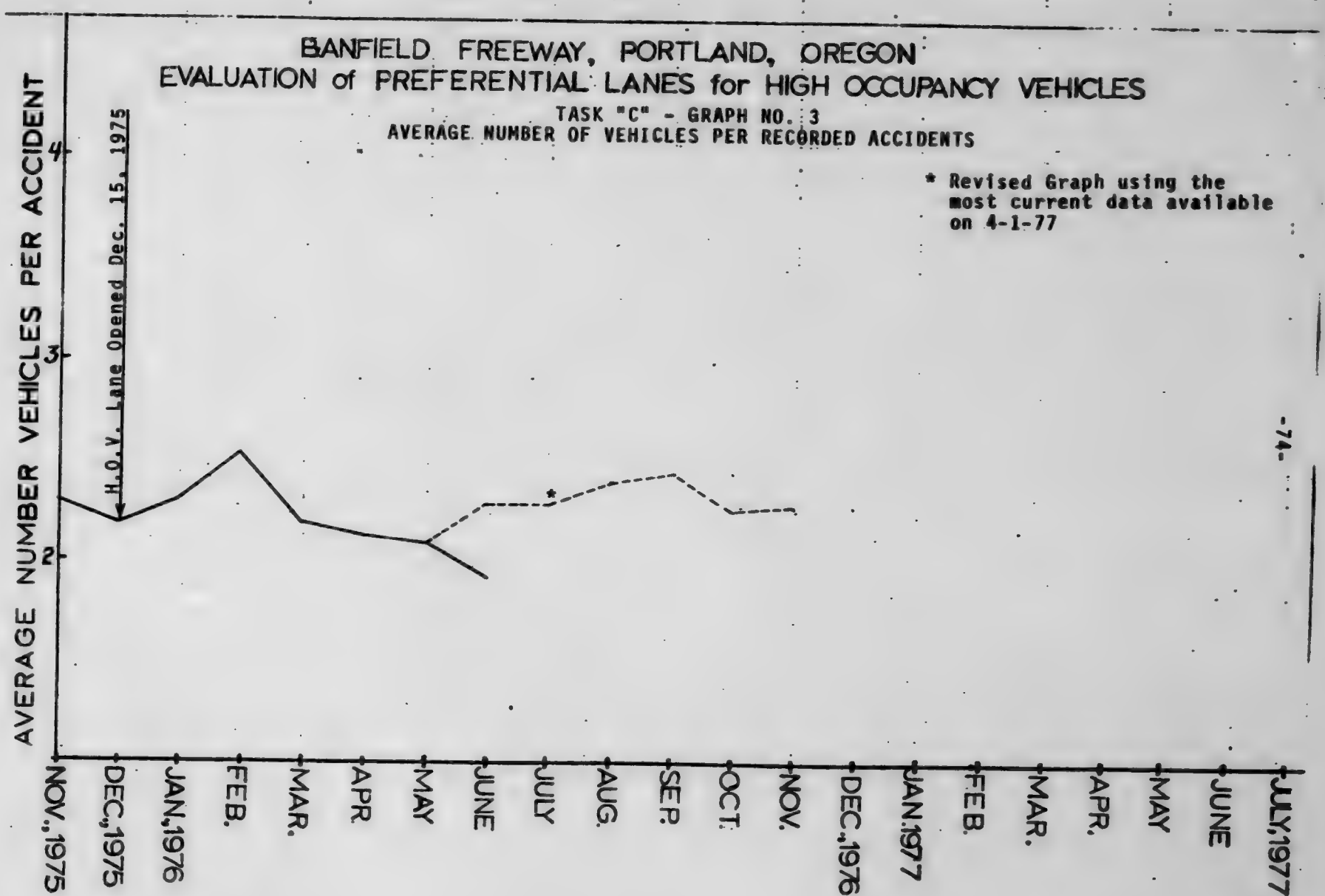
* Revised Graph using the most current data available on 4-1-77



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "C" - GRAPH NO. 3
AVERAGE NUMBER OF VEHICLES PER RECORDED ACCIDENTS

* Revised Graph using the most current data available on 4-1-77



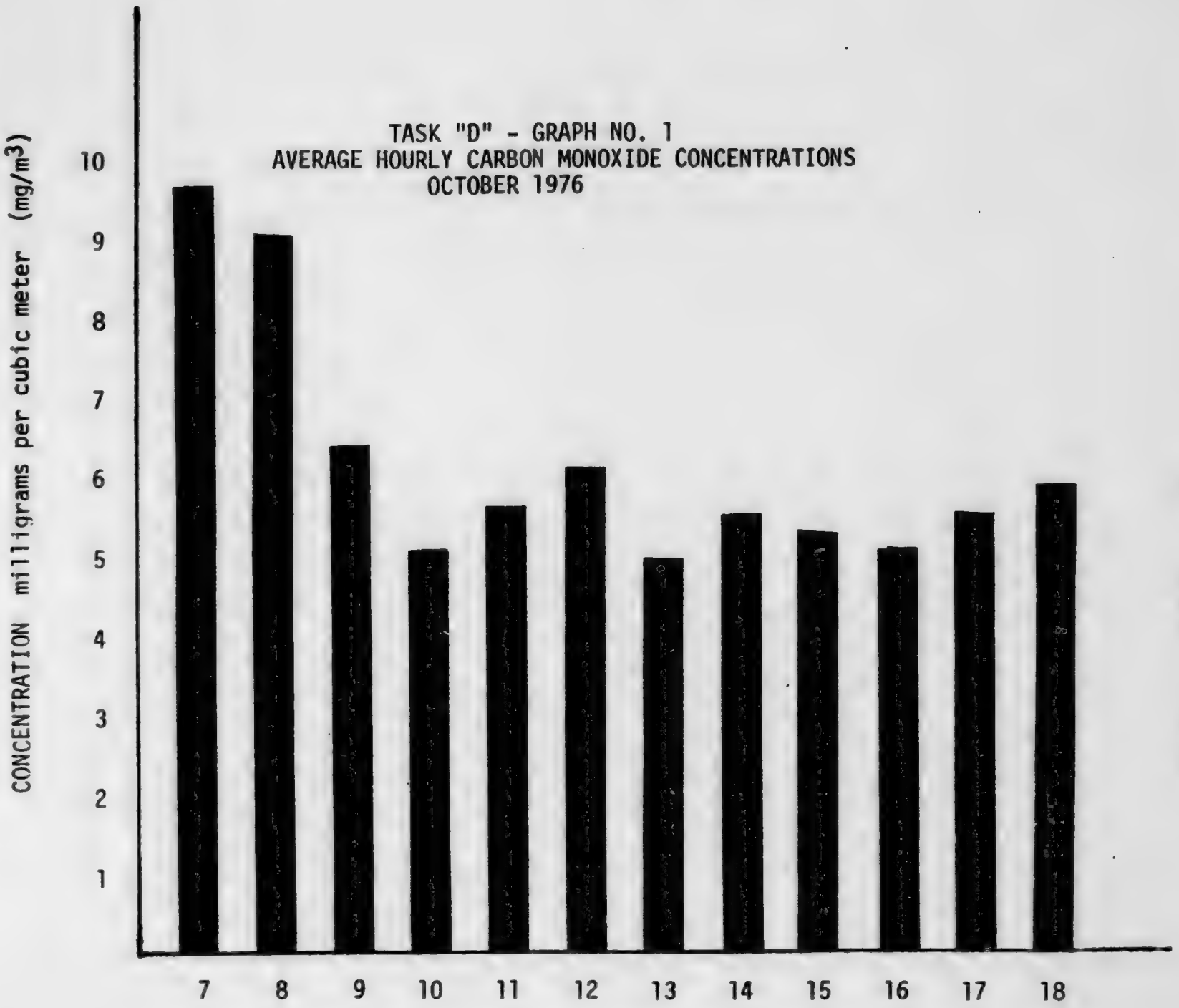
EVALUATION OF PREFERENTIAL LANES FOR HIGH-OCCUPANCY VEHICLES ON THE BANFIELD FREEWAY PORTLAND, OREGON

8 HOUR CARBON MONOXIDE VIOLATIONS

TASK "D" TABLE 1

DATE	M.P. 1.46	47th & Banfield	19th & Multnomah	20th & Sandy	21st & Broadway	22nd & Burnside
10/75	2	3	0	0	0	0
11/75	2	3	0	1	0	0
12/75	0	1	0	0	0	0
1/76	0	0	0	0	0	0
2/76	0	0	0	0	0	0
3/76	0	0	0	0	0	0
10/76	0	1	0	0	0	0
11/76	1	1	0	0	0	0
12/76	1	0	0	0	0	0
1/77	8	5	1	0	0	0
2/77	0	0	0	0	0	0
3/77	0	0	0	0	0	0

TASK "D" - GRAPH NO. 1
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
OCTOBER 1976

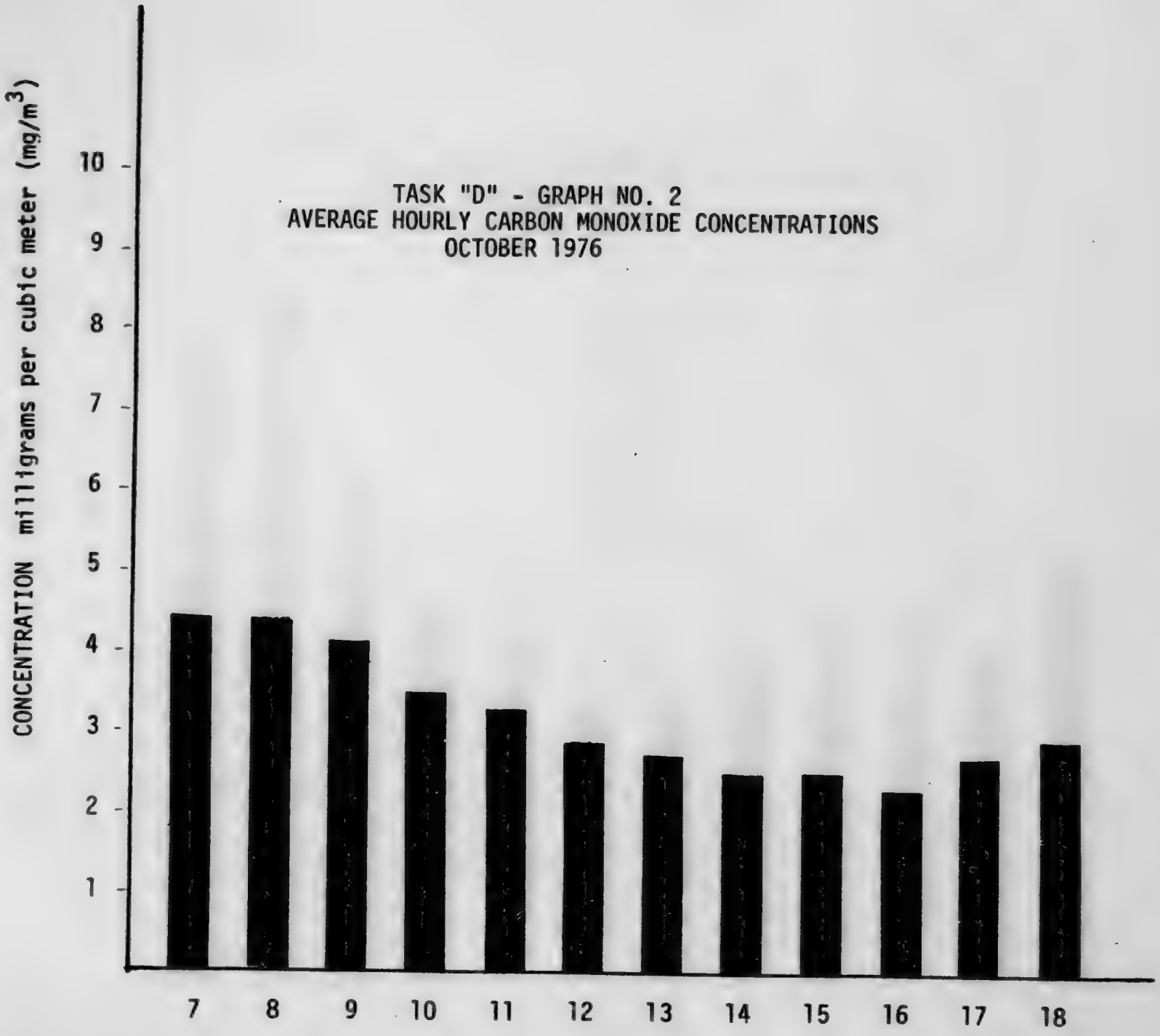


Site- 002
Banfield at 47th Avenue

Samples on an hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3)=1ppm

TASK "D" - GRAPH NO. 2
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
OCTOBER 1976

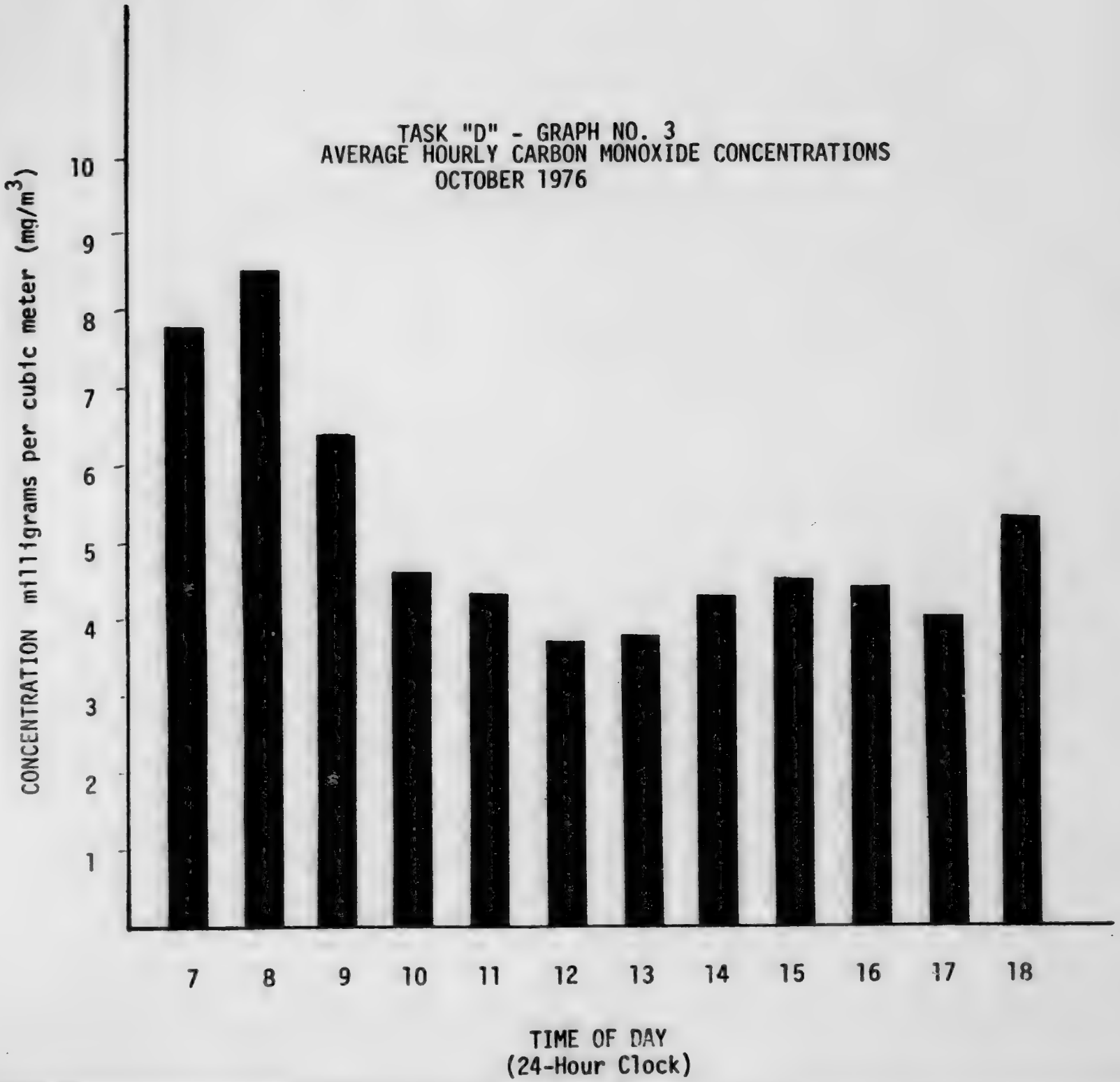


Site- 003
NE 19th & Multnomah

Sampled on an Hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3)=1ppm

TASK "D" - GRAPH NO. 3
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
OCTOBER 1976

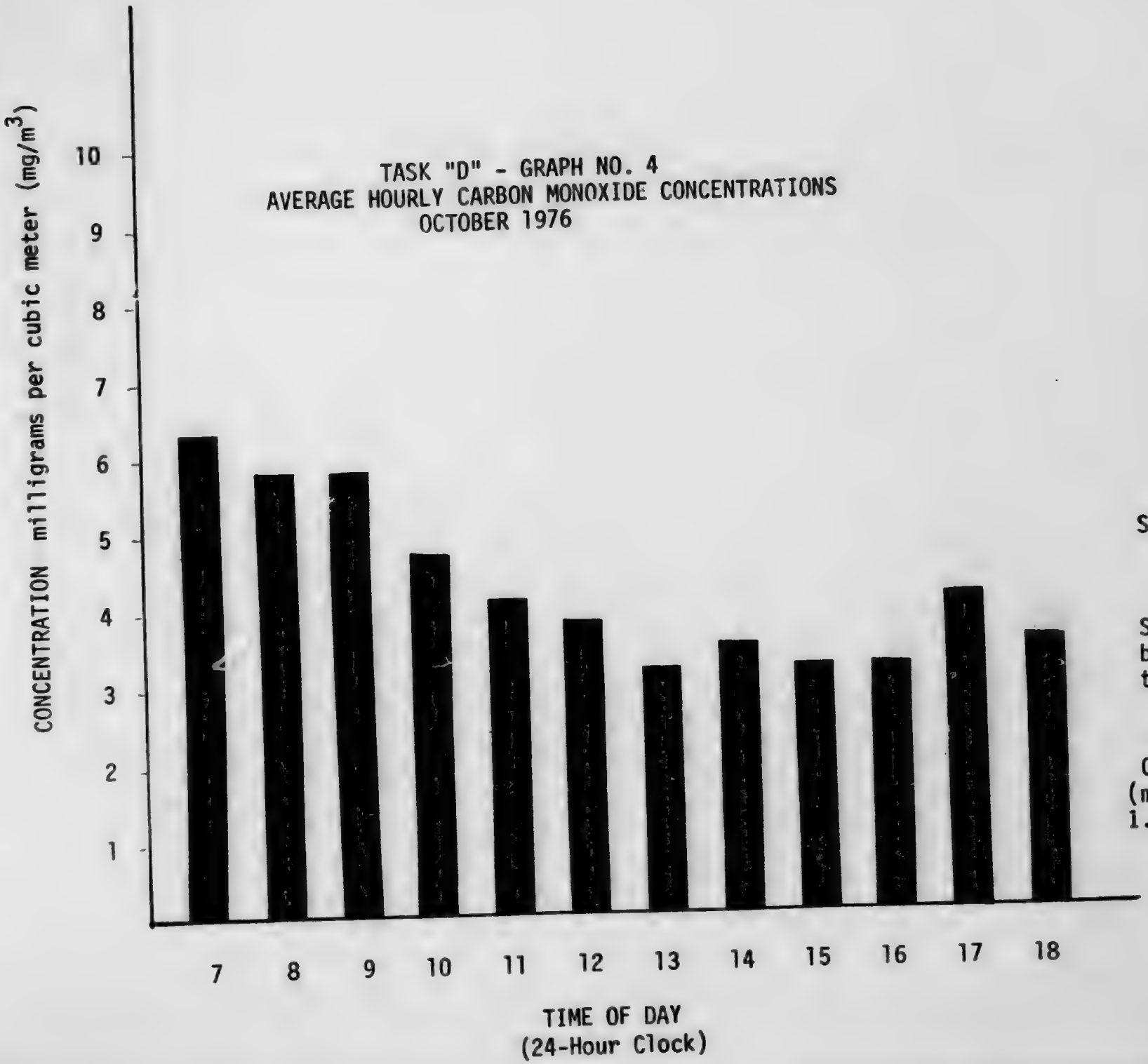


Site- 004
Banfield at MP 1.46

Sampled on an hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3)=1ppm

TASK "D" - GRAPH NO. 4
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
OCTOBER 1976

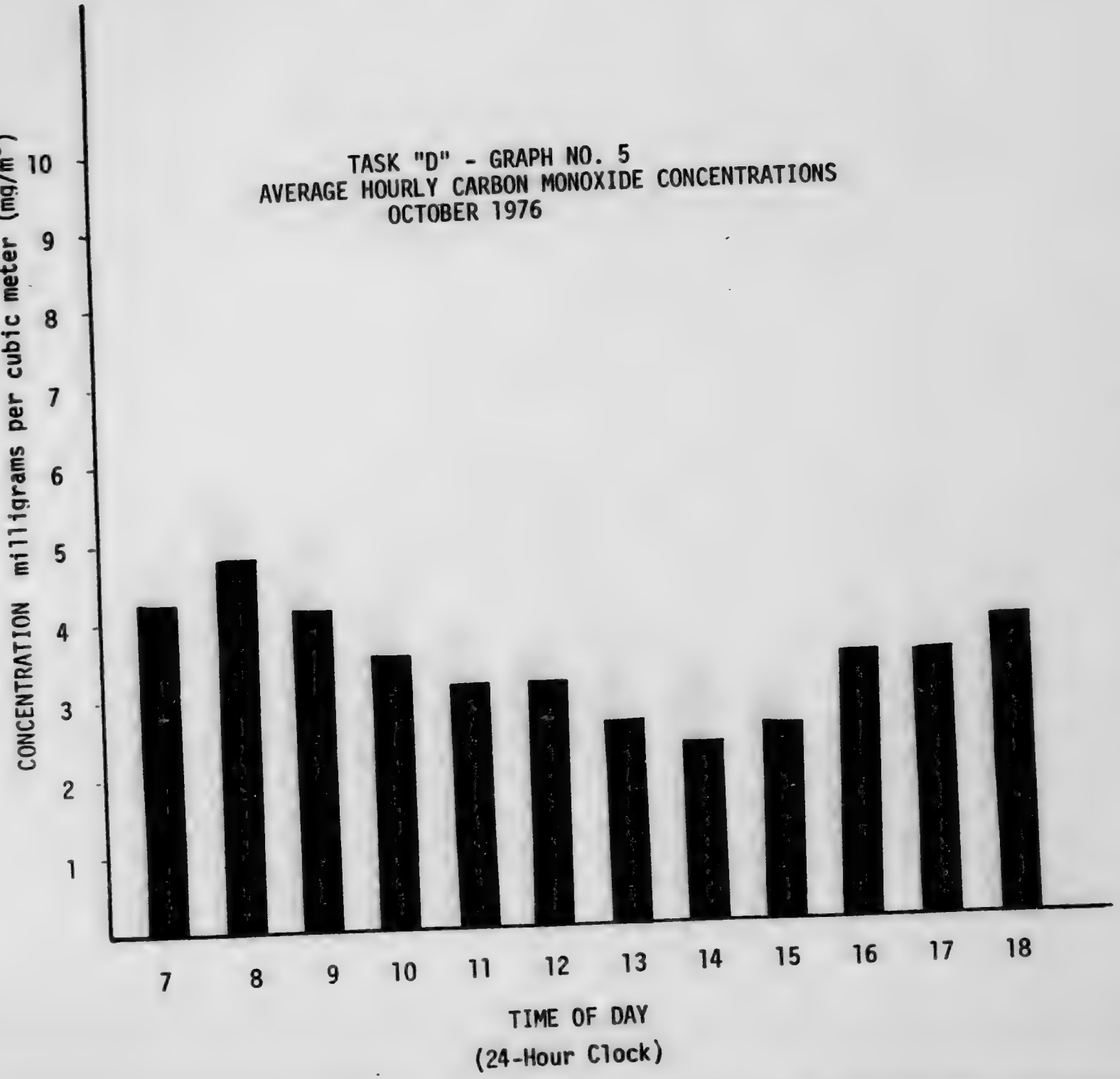


Site- 005
NE 20th & Sandy

Sampled on an hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3) = 1 ppm

TASK "D" - GRAPH NO. 5
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
OCTOBER 1976

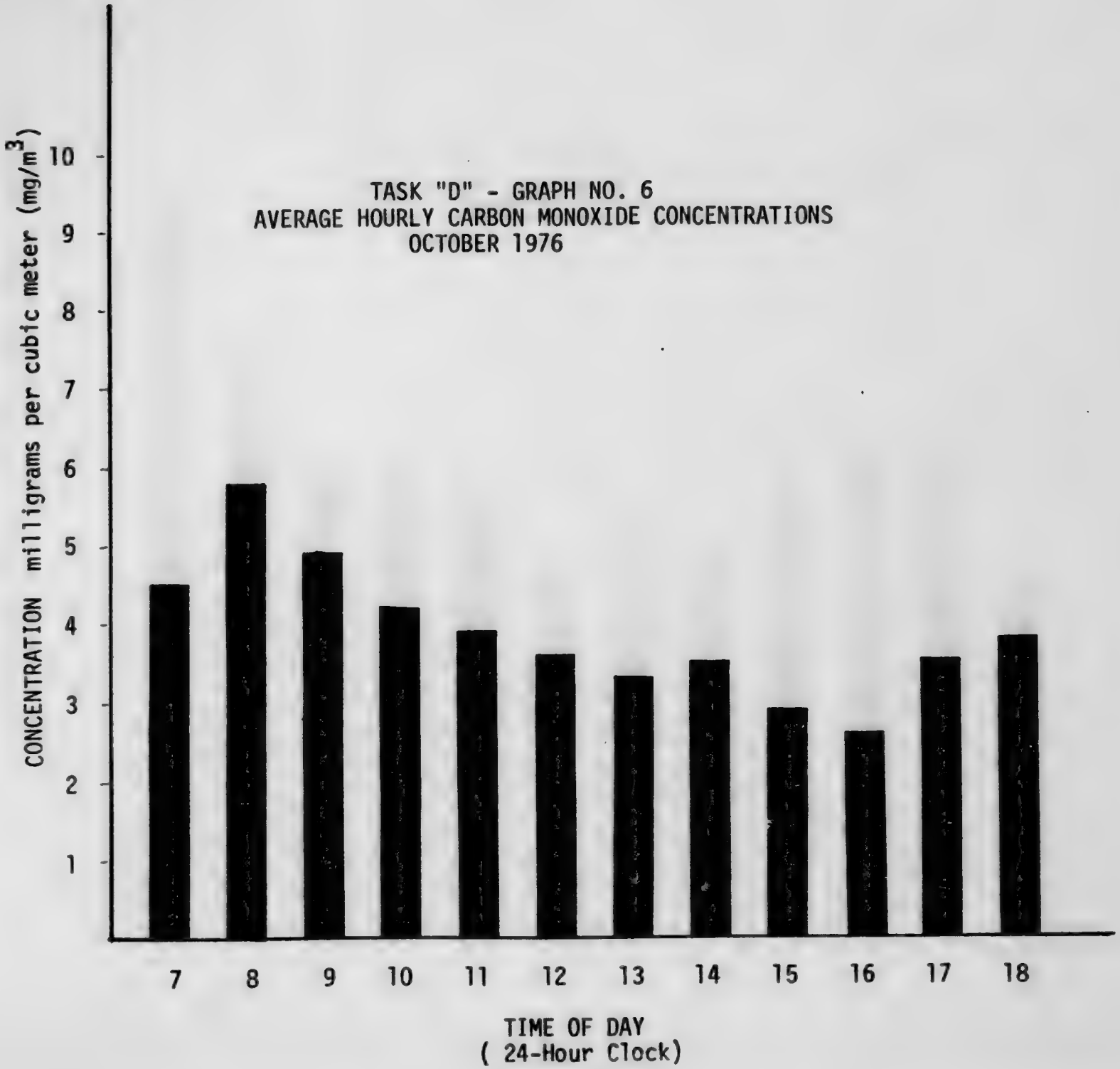


Site- 006
NE 22nd & Burnside

Sampled on an hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3) = 1 ppm

TASK "D" - GRAPH NO. 6
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
OCTOBER 1976

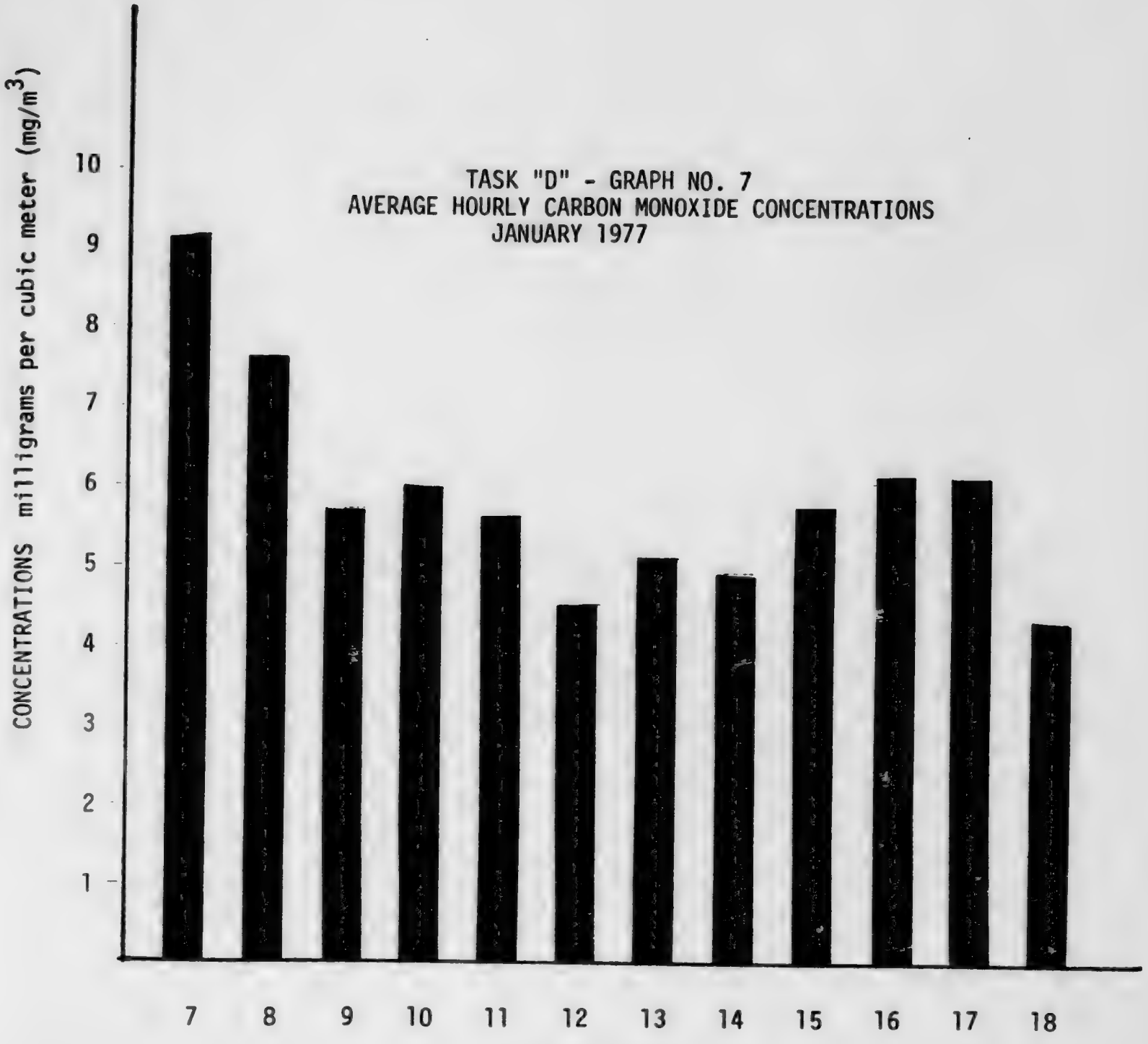


Site- 007
NE 21st & Broadway

Sampled on an hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3) = 1 ppm

TASK "D" - GRAPH NO. 7
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
JANUARY 1977

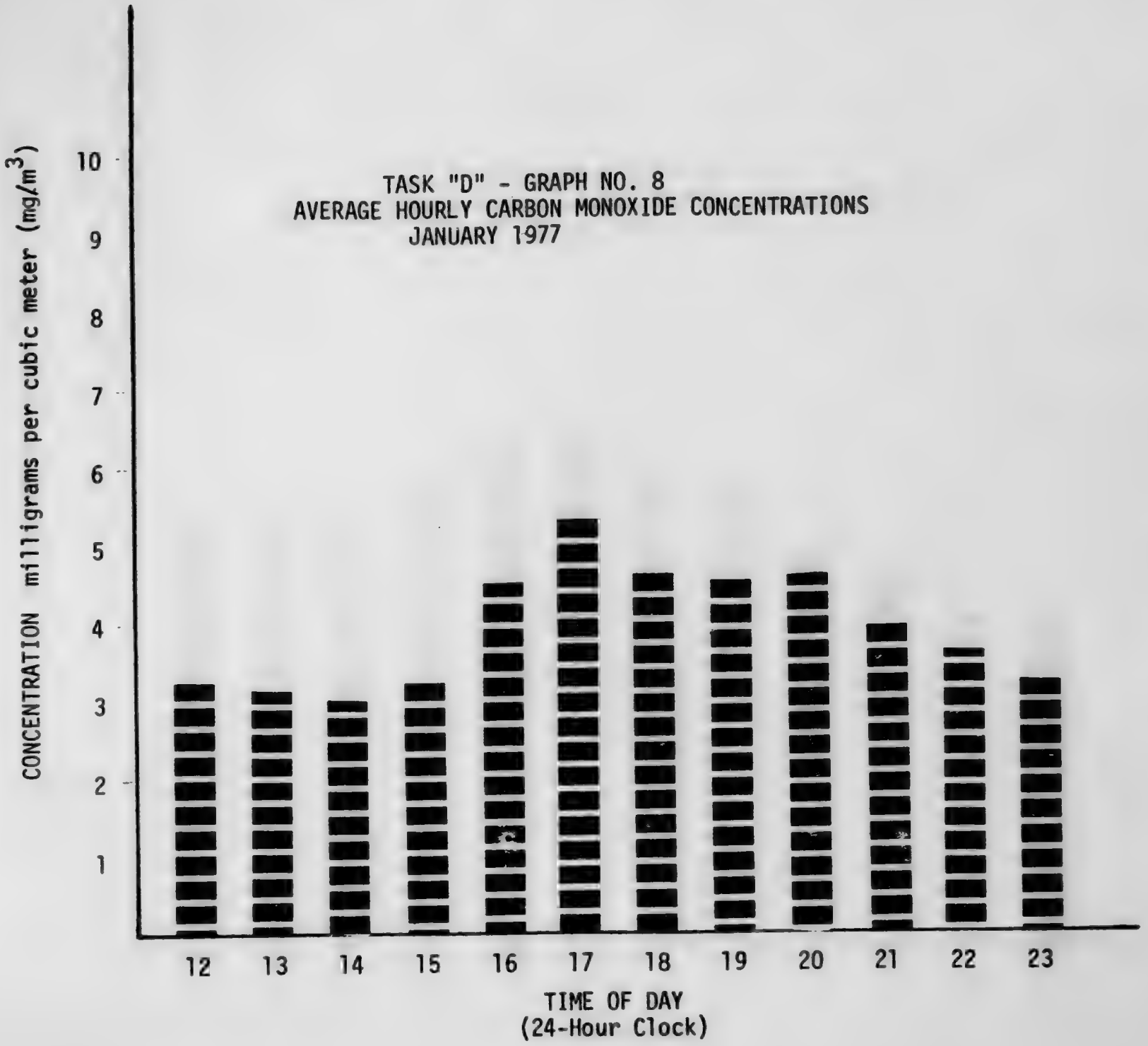


Site- 002
Banfield & 47th Ave.

Sampled on an hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor
(mg/m^3) to ppm
1.145 (mg/m^3) = 1 ppm

TASK "D" - GRAPH NO. 8
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
JANUARY 1977

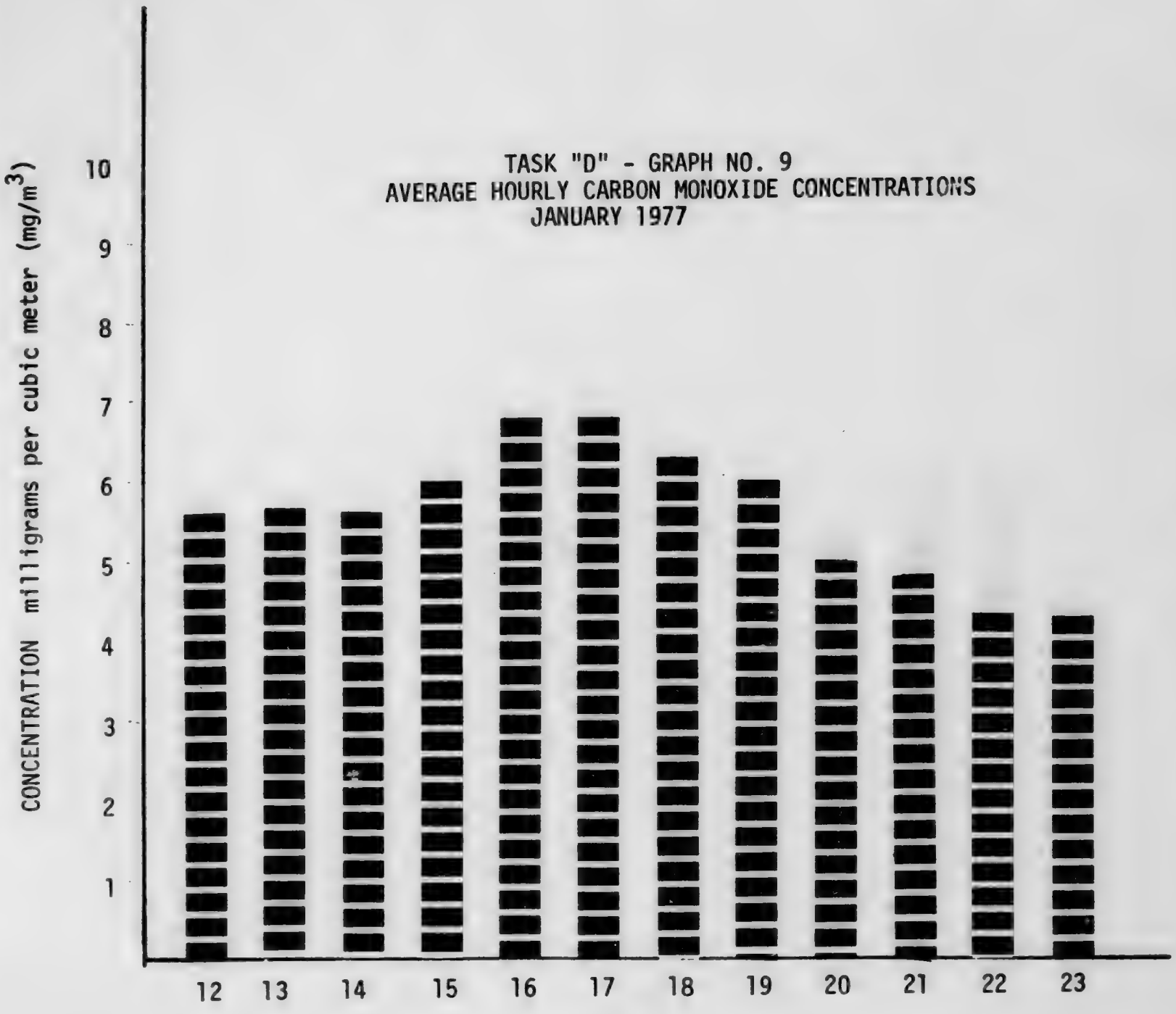


Site- 003
NE 19th & Multnomah

Sampled on an hourly basis from 12:00 a.m. to 12:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3) = 1 ppm

TASK "D" - GRAPH NO. 9
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
JANUARY 1977

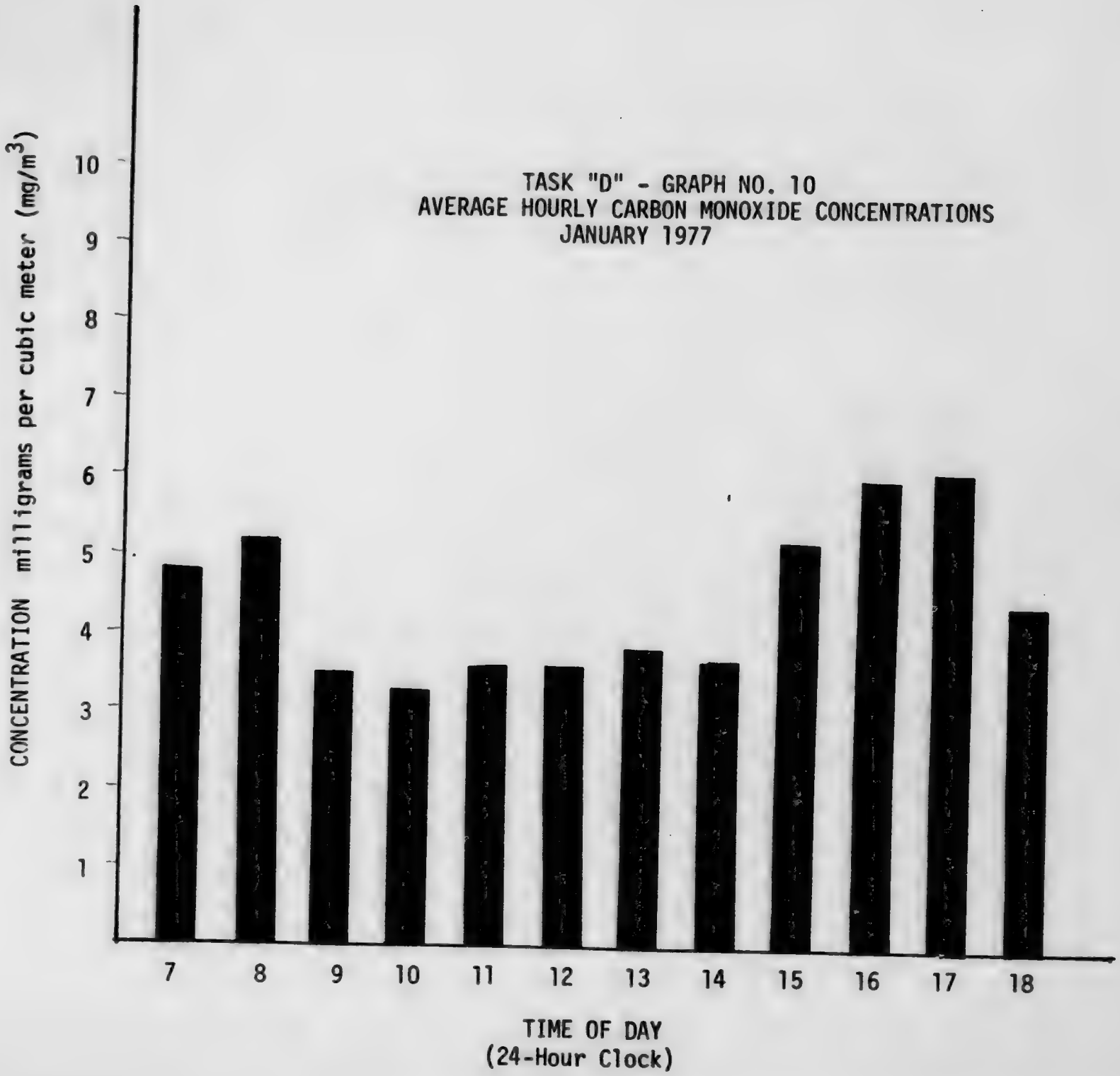


Site- 004
Banfield at MP 1.46

Sampled on an hourly basis from 12:00 a.m. to 12:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3) = 1 ppm

TASK "D" - GRAPH NO. 10
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
JANUARY 1977

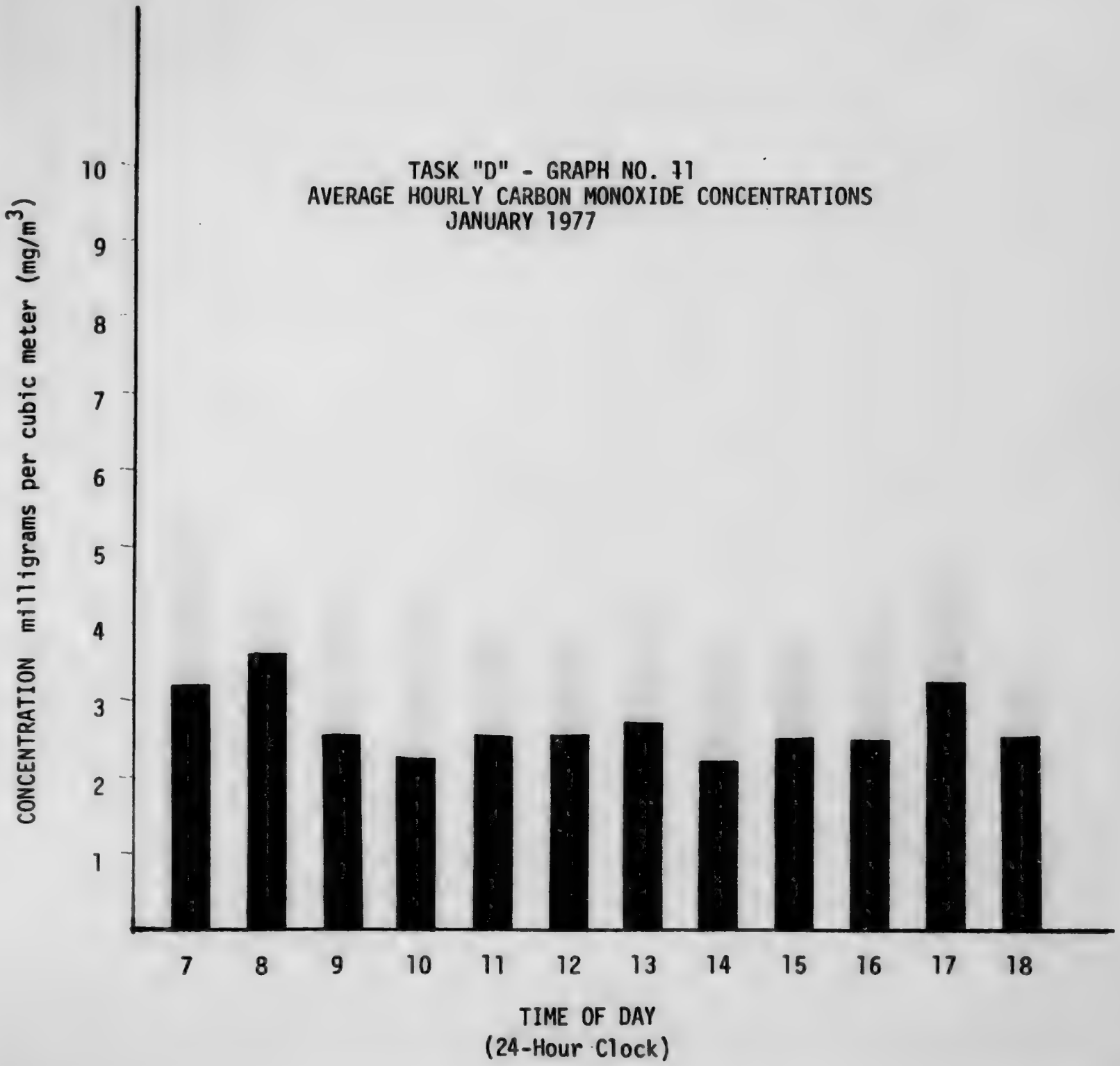


Site- 005
NE 20th & Sandy

Sampled on an hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor
(mg/m^3) to ppm
1.145 (mg/m^3) = 1 ppm

TASK "D" - GRAPH NO. 11
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
JANUARY 1977

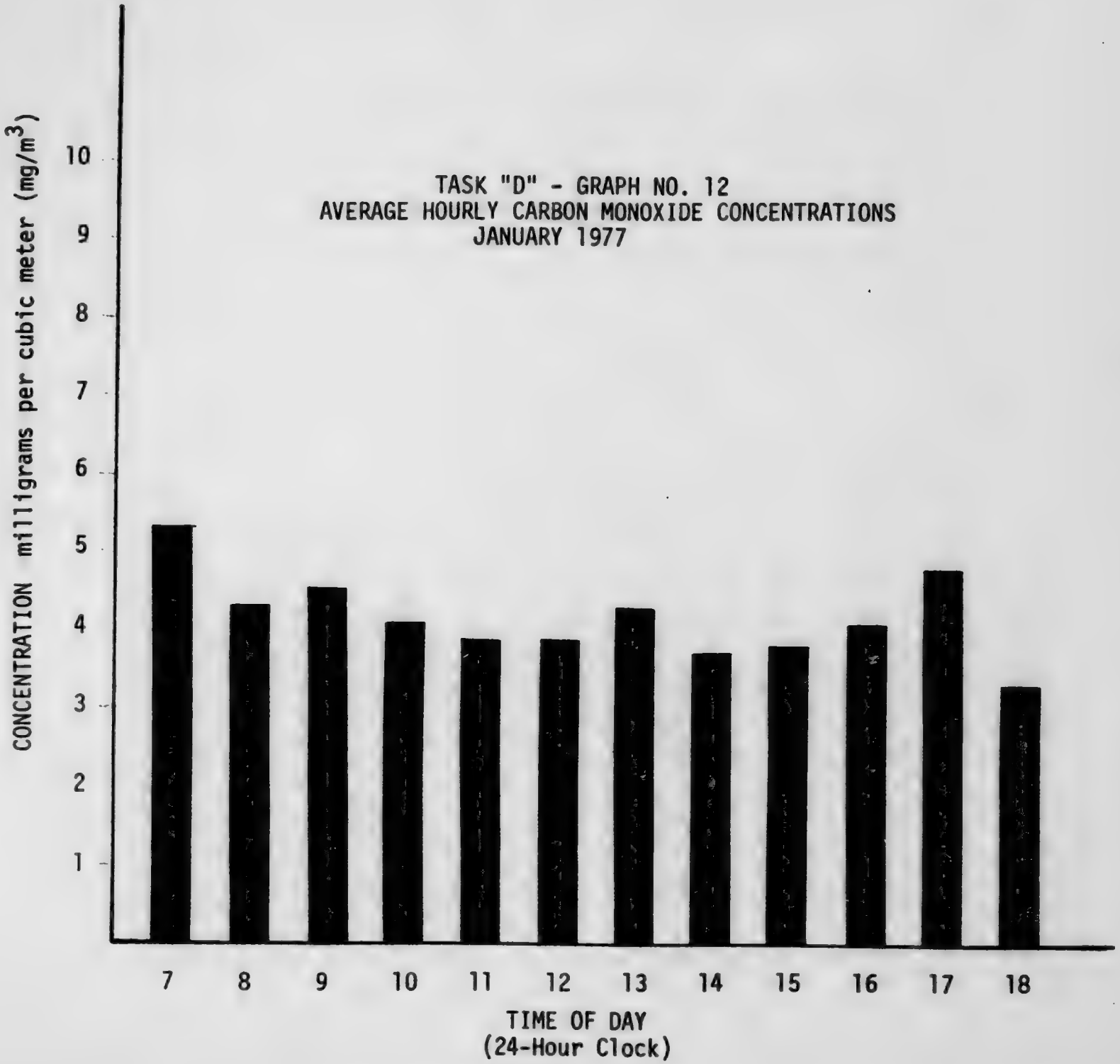


Site- 006
NE 22nd & Burnside

Sampled on an hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3) = 1 ppm

TASK "D" - GRAPH NO. 12
AVERAGE HOURLY CARBON MONOXIDE CONCENTRATIONS
JANUARY 1977



Site- 007
NE 21st & Broadway

Sampled on an hourly basis from 7:00 a.m. to 7:00 p.m.

Conversion Factor (mg/m^3) to ppm
1.145 (mg/m^3) = 1 ppm

FREQUENCY DISTRIBUTION TABLE

WEATHER STATION NAME: KATU TV, 2153 NE Sandy Blvd., Portland, Oregon

START: 10/07/76 1300

END: 11/01/76 1300

PROJECT ID: BANFIELD HOV 261483

CALMS DISTRIBUTED

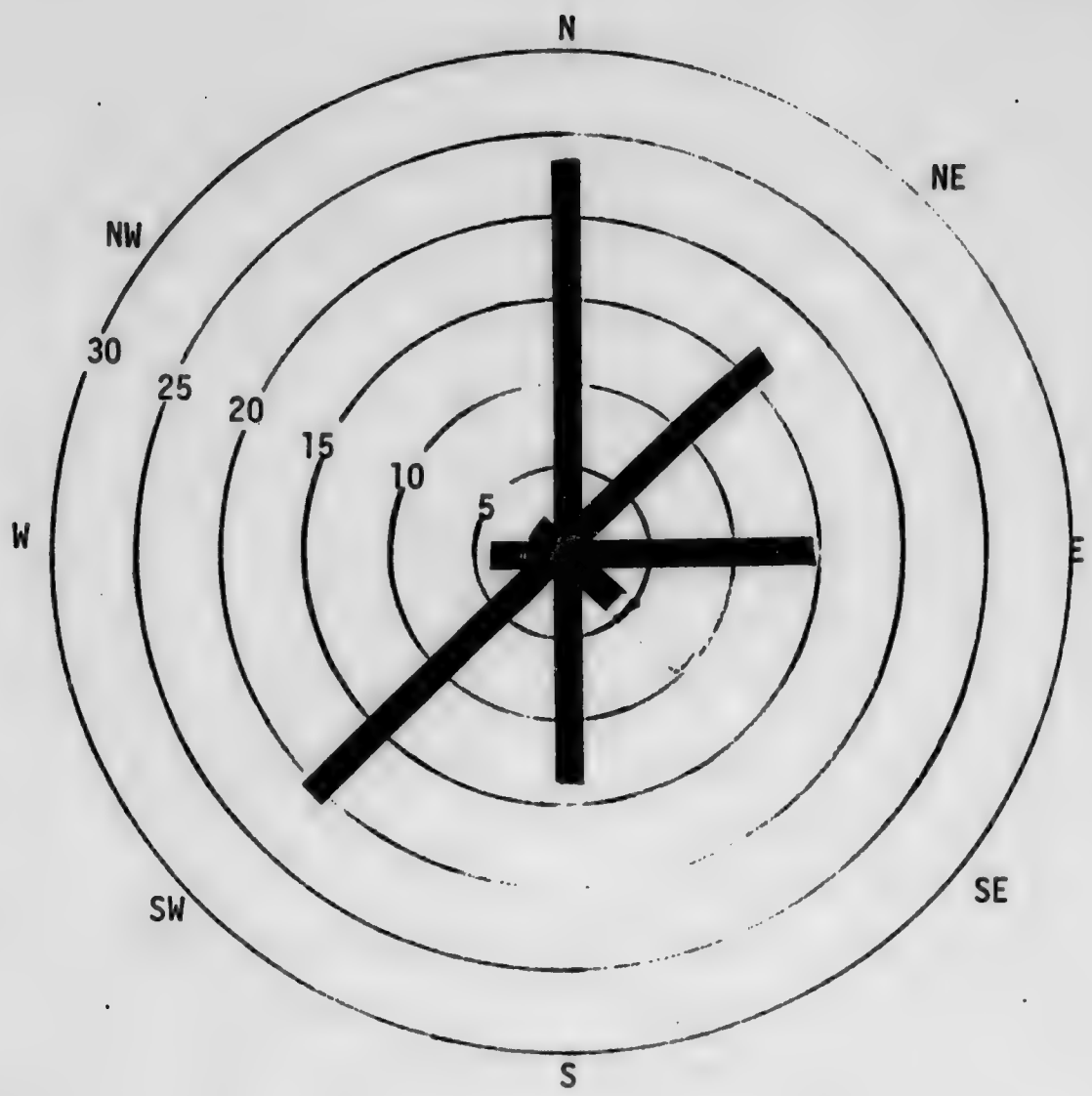
DIRECTION	SPEED, MPH												
	1	2	3	4	5	6	7	8	9	10	TOTAL	AVE	% TOTAL
N	31	56	28	17	14	0	0	0	0	0	146	2.5	24.7
NE	22	44	19	10	2	0	0	1	0	0	98	2.2	16.6
E	8	9	5	0	3	7	3	2	5	41	83	7.1	14.1
SE	12	7	3	1	0	0	0	0	0	0	23	4.4	3.9
S	32	28	14	5	1	0	0	0	0	0	80	1.9	13.6
SW	36	29	10	10	14	8	9	3	0	4	123	3.3	20.8
W	9	6	1	3	3	2	1	0	0	0	25	2.8	4.2
NW	4	3	4	0	1	0	0	0	0	0	12	2.3	2.0
TOTAL	154	182	84	46	38	17	13	6	5	45	590	3.2	
% TOTAL	26.1	30.8	14.2	7.8	6.4	2.9	2.2	1.0	0.8	7.6			

Conversion Factor M/H to Km/H

0.62137 (M/H) = Km/H

WIND ROSE
for
October 1976
STATION NO. 261483

NOTE: % calms
distributed



RELATIVE FREQUENCY OF WIND DIRECTION
(PERCENT)

FREQUENCY DISTRIBUTION TABLES

WEATHER STATION NAME: KATU TV, 2153 NE Sandy Blvd, Portland, Oregon

START: 01/03/77 0100

END: 01/31/77 1100

PROJECT ID: BANFIELD HOV 261483

CALMS DISTRIBUTED

DIRECTION	SPEED, MPH												
	1	2	3	4	5	6	7	8	9	10	TOTAL	AVE	% TOTAL
N	13	30	44	2	0	4	0	1	8	8	94	2.6	22.0
NE	16	21	16	2	1	1	0	0	0	0	57	2.2	13.4
E	17	19	16	6	8	10	15	5	10	31	137	5.6	32.2
SE	8	15	8	1	10	7	3	5	2	0	59	4.0	13.8
S	5	15	1	0	1	0	0	0	0	0	22	2.0	5.2
SW	5	17	7	1	6	0	0	0	0	0	36	2.6	8.4
W	5	4	0	2	3	0	2	0	0	0	16	3.1	3.8
NW	3	1	1	0	0	0	0	0	0	0	5	1.6	1.2
TOTAL	72	122	93	14	29	22	20	11	12	31	426	3.7	
% TOTAL	16.9	28.6	21.8	3.3	6.8	5.2	4.7	2.6	2.8	7.3			

No data taken due to machine malfunction

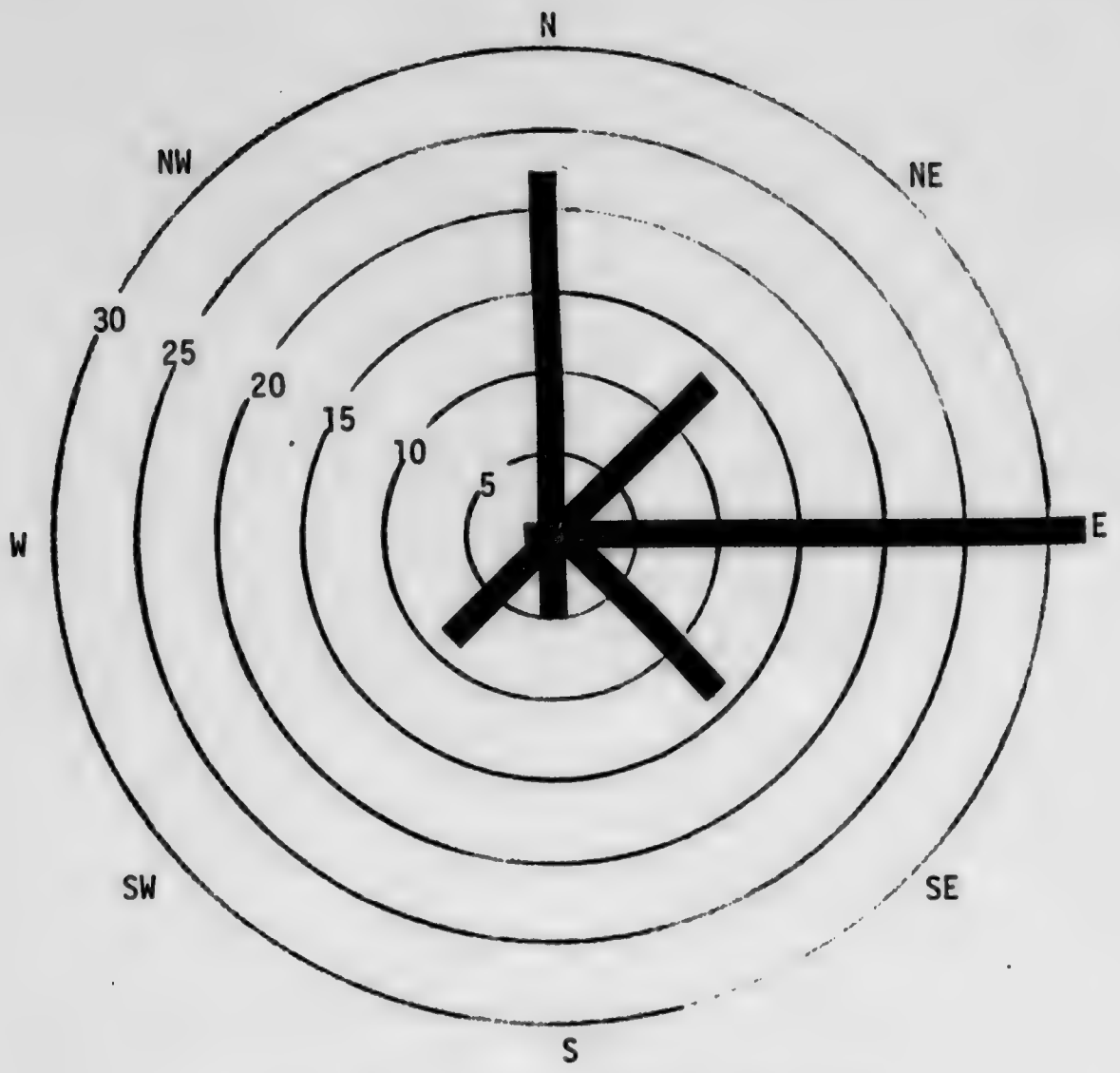
01/09/77	1900 to 01/17/77	1000
01/23/77	0100 to 01/25/77	1100
01/27/77	0800 to 01/27/77	1100

Conversion Factor M/H to Km/H

0.62137 (M/H) = Km/H

WIND ROSE
for
January 1977
STATION NO. 261483

NOTE: % calms
distributed



RELATIVE FREQUENCY OF WIND DIRECTION
(PERCENT)

8259 NE Union Ave-NE 82nd Ave Sec. 1975
Columbia River Hwy. in Portland
(Grad.,pav.,bar,sign & ill.) 45

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170

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GRESHAM OUTLOOK
SERVING ALL OF EASTMONT
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The Bureaucracy Will Get You, etc.

We think the Oregon Dept. of Transportation (nee the Highway Dept.) has a bad case of foot in the mouth.

We'll let the DOT do its own talking:

In an answer to a question as to why no environmental impact statement was filed when the Department installed the HOV lanes on the Banfield freeway:

"None was needed. Instead, we filed a 'negative impact statement' which meant we had determined there was no significant impact on the quality of the human environment."

But what if the HOV lanes were eliminated?

"We would have to get an indirect source permit. This means we have to prove that six lanes with the increased traffic would have no harmful effect on the air quality, noise levels and other environmental factors."

Why was no permit needed when the HOV lanes were installed if one will be needed when the lanes are eliminated?

"Because they (the HOV lanes) were a temporary project with a definite time limit."

Nonsense. The HOV lanes were installed pell-mell because of political pressures.

Even at this late date we'd like to know how the DOT can apply the rules one way today and another way tomorrow. Consistency is not a jewel in DOT's crown.

RECEIVED
DOT OPERATIONS
MAR 15 '77
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

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O.S.H.D. - METRO
MAR 16 1977
FILE T/A

STATE OF OREGON

INTEROFFICE MEMO

I-205

RECEIVED DOT OPERATIONS						
MAR 8 - '77						
REFER TO						
FOR						
Info	Invest	R/D	D/R	Sign	Agt	File

TO: DENNIS L. PETERSON
Metro Traffic Engineer

DATE: March 7, 1977

FROM: ORIGINAL SIGNED BY R N BOTHMAN
ROBERT N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: Banfield HOV lanes

I acknowledge and understand the approach leading to your recommendation to consider discussing opening all lanes on the Banfield Freeway to all autos.

Your approach is that the six auto lanes on the Banfield created by opening all lanes to all traffic could handle the growth projected in the next three to five years. I question the five-year period. Your analysis is based upon a growth rate of 2 to 5 per cent annually, but the growth rate in 1976 was 7½ per cent, plus the additional people-trips absorbed by the additional carpools and bus ridership generated by the HOV lane project.

My comments relative to the effect of I-205 are based on the operational strategy of I-205. The design of I-205 limits through traffic from major east/west arterial streets; e.g., Powell, Division, etc., by restricting the traffic at I-205 flowing in an east/west direction. The strategy is to divert that traffic to I-205 and the Banfield to gain access to the downtown. The strategy is to remove the through or regional trip from the arterial streets in southeast Portland and carry that traffic on the Banfield. The six lane proposals in the Banfield transitway project are planned to accommodate that traffic which will be diverted from the arterial streets as opposed to creating a capacity to carry additional auto trips.

I believe a combined strategy needs to be considered in development of the Banfield including additional transit capacity and auto capacity. Before establishing additional auto capacity on the Banfield, the transit service or facility must be improved sufficiently to provide an attractive alternative to the automobile. If this is not done, people will continue to orient their lifestyles,such as planning for housing and employment, on the basis that auto capacity will forever be available in the Banfield to carry their vehicles. In short, I think persons making those decisions are basing them on the immediate condition, not projecting what may be the case in twenty years.

This leads to the immediate problem with the Banfield HOV lane and the concept of providing additional capacity for transit and not for automobiles. The goals and objectives for transportation in this region place a major emphasis on the use of transit to provide for the additional transportation movement from the increased growth in the region. The conflict is that the general public is proceeding to look at the very near future for their transportation needs based on the facilities which are available to them and to make decisions which, at this point, are auto oriented.

NOTED
F. B. KLABOE

In summary, to be consistent with the current region objectives, additional auto capacity should not be provided on the Banfield Freeway until such time as an equivalent transit capacity is provided.

The current project provides for a transition into the types of alternatives being designed for the Banfield transitway project. It provides for accommodating the transportation strategy of the I-205 and the Banfield facilities and transit goals.

ebg

cc: [redacted], w/attachments

FORM 81-734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Portland, Oregon 97213

February 8, 1977

FILE:

FROM: DENNIS L. PETERSON
Metro Traffic Engineer

SUBJECT: BANFIELD HOV LANE PROJECT

TO: ROBERT N. BOTHMAN
Assistant State Highway Engineer

In response to my January 28 letter, you did on February 1 request additional information on the subject project. Following are the questions you posed and the comments I have:

1. Is your recommendation consistant with the Transportation plan for the Region, or does it require a revision to the Regional plan?

   Comment: Experimenting with six lanes of mixed traffic from Union Avenue to 82nd Avenue would be a forerunner to one of the alternates being considered for the Banfield Transitway except that the Transitway proposal would extend to I-205. If the various Transitway alternates are considered a part of a regional plan, then it would follow that this proposal would be consistant with current planning.

2. Your traffic forecasts for the short-term years and the long-term twenty years, based on your proposals to increase auto capacity.

   Comment: Growth in the immediate future (short-range, 3-5 years) will be governed by the input from existing feeder facilities, i.e. ramps from I-5 and City Streets. In the eastbound direction, the principal feeder - The interchange with I-5 and three bridges - is as shown on the attached print loaded to 95 percent of its capacity. Between this point and the Hollywood District, there are two other on-ramps which could deliver more traffic. This eastbound section carries 4800 during the peak hour and it could handle upwards of 5400 vehicles. Improved operating conditions could attract an estimated 400 additional trips from all of these sources. Further significant growth would not occur unless and until the interchange with I-5 were revamped. From the Hollywood District to 82nd Avenue, traffic volumes approximate 3600 per hour. There would be room for a 50

percent increase. Increases in the range of 600 vehicles (16 percent) are all that would be expected due to the restrictions at the west end of the Banfield.

In the westbound direction between 82nd Avenue and the Hollywood District, there would be room for a 50 percent increase from 3,600 to 5,400 vehicles per hour. The 82nd and 57th Avenue on-ramps can deliver some - not much because of capacity restriction - added traffic during the peak hour. It would be limited to about 400 vehicles per hour. Growth from east of 82nd Avenue would add another 300 vehicles for a total of 700 or, say 20 percent, which is well within the allowable 50 percent growth. From the Hollywood District to I-5, the existing peak hour amounts to 5,400 vehicles and there would be capacity for about 7,000 or, a 30 percent increase. With the 700 new trips from points east of this section and the added traffic that the 37th and 33rd ramps would deliver (400), there would be about a 20 percent increase which would be within the sections capacity.

In summary, on a short-range (3-5 years), growth would probably vary from two to four percent annually eastbound and approximately five percent annually westbound. On a longer term basis, eastbound growth would eventually be stifled by physical limitations discribed above, and westbound too would eventually reach that point because of capacity limitations. Prior to these long-term happenings, it is assumed a transitway facility would be operative.

3. THE EFFECT OF YOUR PROPOSAL ON THE I-205 PROJECT, INCLUDING PROVISIONS FOR TRANSIT IN THAT FACILITY, AND THE REDUCED CAPACITY FOR AUTOS ON THAT FACILITY.

   COMMENT: The proposal in question ends at 82nd Avenue. No changes are proposed at this time from 82nd to I-205. It must be assumed that the transitway plans will address these issues and, I believe, one or more of the alternatives in that study include six-laning to I-205.

4. THE EFFECT OF YOUR RECOMMENDATION ON THE HANDLING OF TRAFFIC IN THE BANFIELD DURING THE PERIOD OF CONSTRUCTION, NOW SCHEDULED FOR 1979 THROUGH 1983.

   Comment: No question - This is going to be a monumental problem and many factors will have to be considered. It occurs to me, however, that alternate routes for mixed traffic will be easier to manage than a combination of mixed traffic in certain lanes and HOV traffic in an exclusive lane.

5. THE EFFECT OF YOUR PROPOSAL ON THE DOWNTOWN PARKING LID.

   COMMENT: It really would have no more or no less effect than one or more of the transitway proposals. I would seriously doubt that anyone riding a bus now would change to auto under this proposal. In addition, the traffic growth that has been occurring and probably will continue is to regional trips-those bypassing the downtown area.

6. THE EFFECT OF YOUR PROPOSAL ON THE IMPLENTATION OF THE CLEAN AIR PLAN.

   COMMENT: During the peak periods, stop-n-go traffic would be eliminated. All vehicular speeds would increase at least 10 MPH on the average. These two factors would tend to offset the effects of increases in peak hour traffic on the Banfield. In addition, city streets paralleling the Banfield would have less traffic because of the diversion to the Banfield as predicted in comment number 2. These factors combined could have a beneficial effect on the clean air plan.

In summary, we still have four or five months left on the HOV lane demonstration project. Because the trends have leveled off on the HOV lane experiment and no more useful planning data will be forthcoming, it is proposed to experiment with six lanes of mixed traffic for a period of time. This would give us an insight into the effectiveness of one or more of the Banfield Transitway Alternatives and, if successful, be of value to the motoring public during that period prior to construction and the public relations effort during the construction.

ggw

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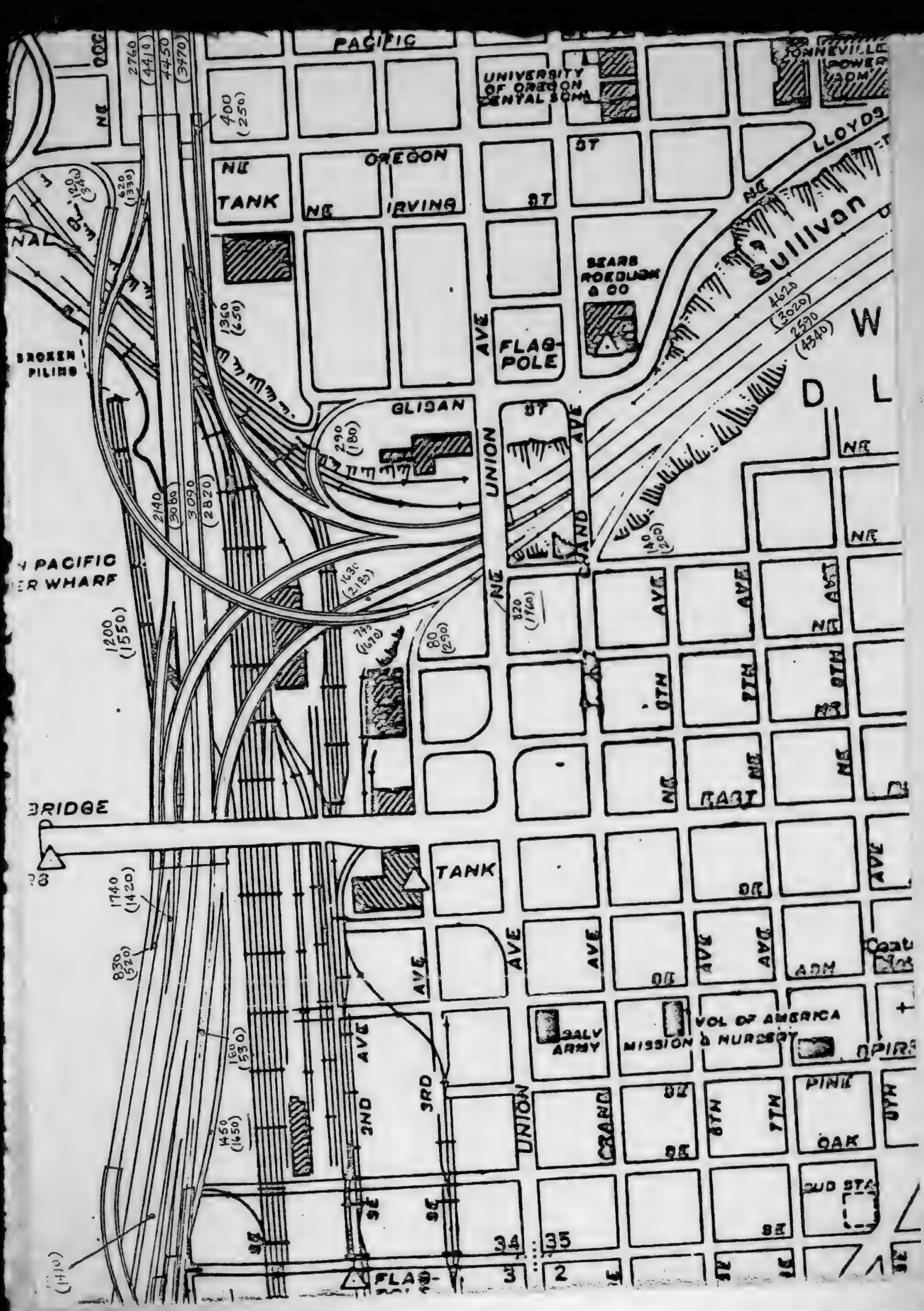
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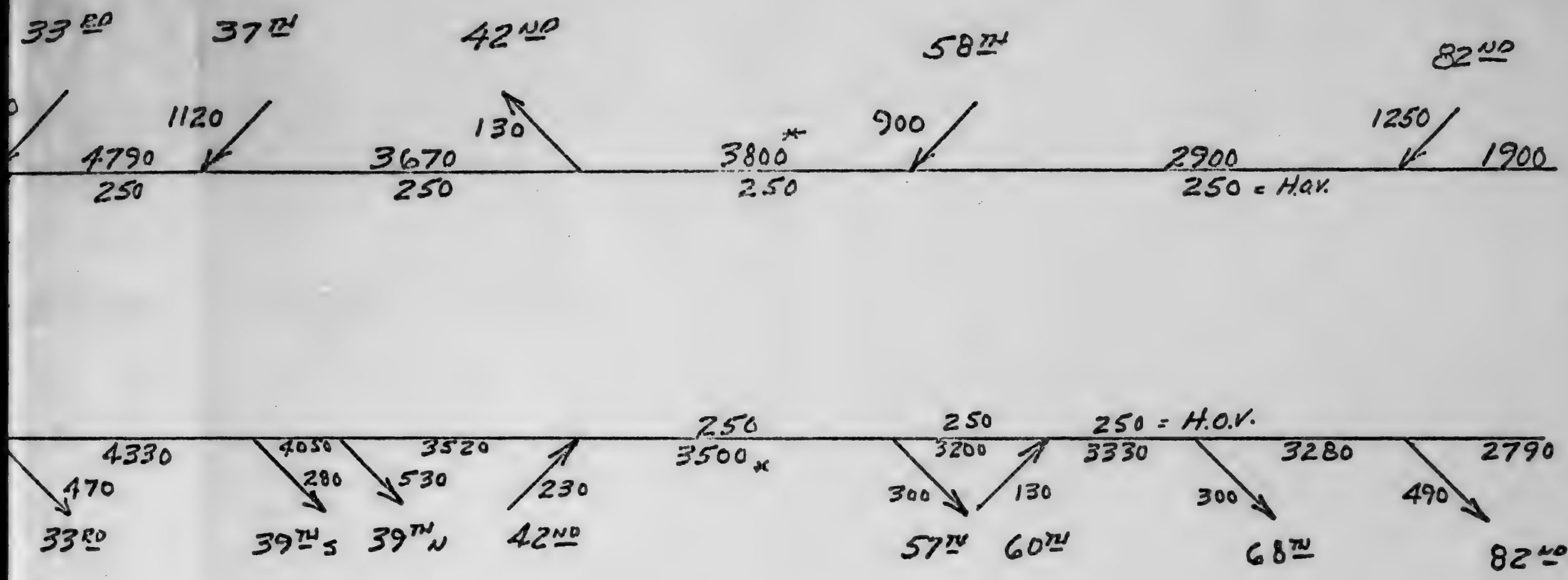
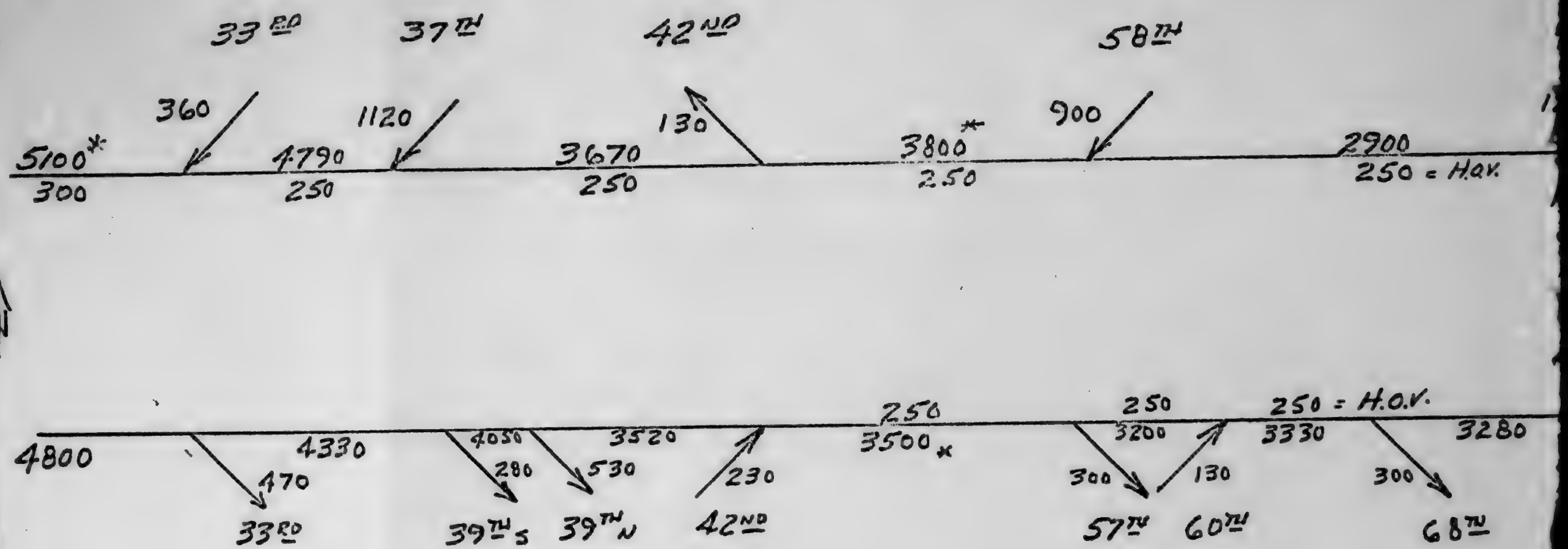


BANFIELD FRWY
MAY, 1976 PEAK HR
WEST = 7-8A
EAST = 4-5P
* = BOTTLENECKS



BANFIELD
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WES
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* = BOT

STATE OF OREGON

INTEROFFICE MEMO

TO: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

FROM: DENNIS L. PETERSON
Metro Traffic Engineer

DATE: January 28, 1977

SUBJECT: Banfield HOV Lane Project

In your December 23 letter, you requested a detailed study of accidents on the Banfield Freeway. You indicated that Police Chief Baker was concerned about conditions and was requesting additional signing at high accident areas.

We have prepared an accident spot map, which is attached, for the first eight months of 1976. It shows directional information on location, type of accident, month and hour of occurrence. A brief overview of the statistical summary on the map shows that rear-end accidents account for roughly 70 percent of the total and that directional patterns are essentially the same. Peak period traffic, which amounts to 25 percent of the daily total, is responsible for some 65 percent of the accident experience. There appear to be no isolated problem areas, thus the data indicates that congestion is the prime causative factor. The only known solutions to such a problem is to either reduce traffic demand or increase capacity.

During the afternoon peak hour, the eastbound lane next to the HOV lane in the vicinity of 47th Avenue has consistently carried 2000 vehicles. The same is true in the morning westbound at this location. In addition, the 7-8 a.m. count in the westbound lane next to the HOV lane in the vicinity of 28th Avenue also is taxed to capacity, i.e., 2000 vehicles per hour, which is service level "E" - the accident producing level of service.

The above conditions are essentially the same as existed prior to the HOV lane and the reason they have not improved is simply because the HOV lanes have not been effective in reducing the demand for vehicular usage in the non-HOV lanes. Each HOV lane serves about 1100 persons (200 vehicles) during the peak hour. This is 900 short of the minimum goal of 2000 persons per hour and since 1100 persons has been a rather stable statistic, it would not appear that the goal will be met under the present arrangement. Unless demand in the non-HOV lanes can be reduced by about 500 vehicles during the peak hour, the unfavorable accident experience during this part of the day is expected to continue.

This experiment has lasted a little over a year now and the trends for the various statistics have leveled off. No significant changes in these trends are expected. The decision now would seem to be whether enough experimental data have been collected to give guidance to the transitway planners. I believe this to be the case and recommend that you consider discussing this with the other agencies involved. A unified Highway, County, City and Tri-Met recommendation may be sufficient to obtain permission from DEQ to open the freeway up to all traffic all hours, thus obtaining level "C" service and all of its

81-125.1367

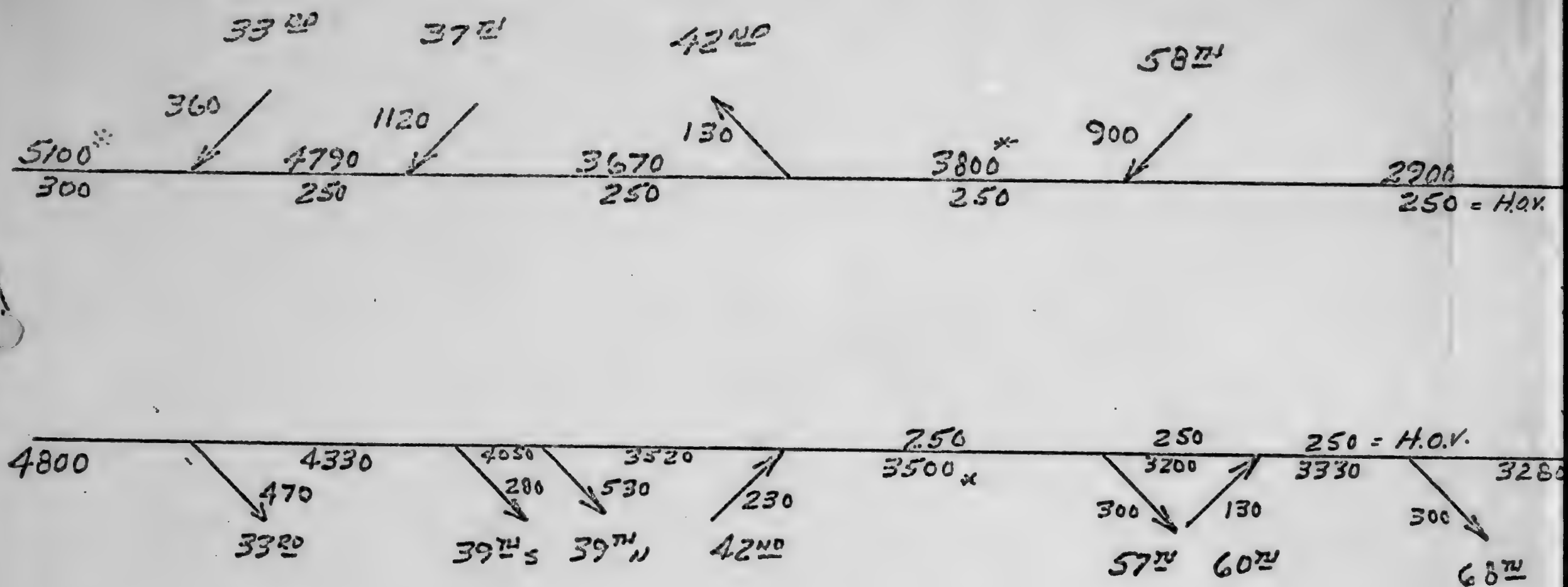
attendant benefits, i.e., cleaner air, reduced travel time, lower accident rate, elimination of the hazardous eastbound lane drop at 42nd, and improved public image.

Such action would provide a decent level of service on this facility for at least five years and by that time, we could expect that additional relief will be afforded by the transitway. I urge your serious consideration of this proposal and will make myself available in assisting in the changeover planning should you decide to go this way.

ldo

Attachment

cc: Bob Ewen



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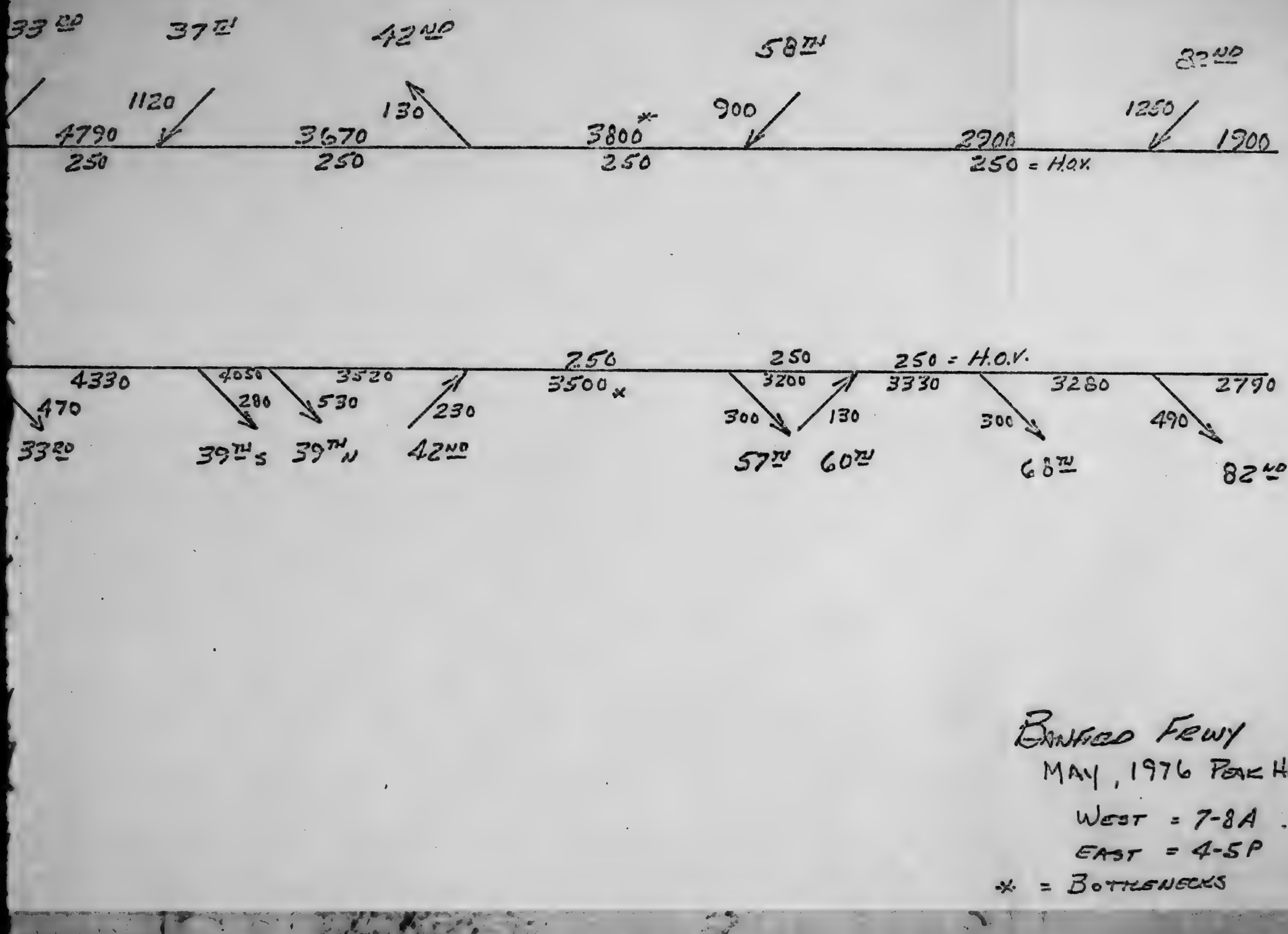

BANFIELD FRWY
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ROBERT W. STRAUB
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310

RECEIVED
DOT OPERATIONS
2-28-77
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

February 25, 1977

Jack Douglas
6317 S.E. Clinton Street
Portland, Oregon 97206

Dear Mr. Douglas:

Public Utility Commissioner Charles Davis has one of the toughest jobs in state government. The spiral of inflation coupled with the need to develop alternate (and expensive) new sources of energy has increased dramatically the cost of providing utility service.

The Public Utility Commissioner'sdecision to ask the 1977 legislature to repeal authorization for utility-employe rate discounts arose from a need to review a regulatory policy which encourages use of scarce resources by providing services at lower prices.

Obviously, not all regulated utilities are the same, nor are regulated utilities offering scarce, increasingly costly resources the same as many agencies or other kinds of businesses. Particular fringe benefits are not necessarily in the public interest just because they have long histories.

The special lane on the Banfield was created by slightly narrowing existing lanes and eliminating shoulders. When this experimental project is completed, the Banfield will either be permanently changed to give preference to transit and car-pools, or it will revert back to its pre-high occupancy vehicle lane status. That means the same number of regular lanes as are out there today.

The Highway Division's Portland office is conducting a study of several projects for improving the Banfield Freeway. I urge you to contact them and learn about these efforts.

Sincerely,

Governor

RECEIVED

RWS/ln

bcc: PUC, DOT

003443

Please prepare draft reply 2-8-77
for Governor's signature RECEIVED
2-18 FEB 14 1977
Thank You: Governor's Office

PLEASE RETU
ORIGINAL LET

Dear Gov. Straub

As a taxpayer + voter, I disagree with you, on keeping that special lane on the banfield freeway in Portland. for buses + cars with 3 passingers only, this to me is discrimination, as we are all paying for it. I use the freeway everyday. I've only seen 1 or 2 cars occasionally using that lane. the on ramps at N.E 57th is still very dangerous during the rush hours, so if the express lane was open for everyone it would help the problems at this point.

Now about your utility Commissoner Wm. Davis, I think it is time to relieve him of his job. as he obviously has forgotten that he is

Jack Douglas

there to protect the people from being overcharged by the utilities, and not there to give the utilities every thing they want, now I see where he would like to take away employee's benefits discount and etc. how many of his benefits does he want to give up?

I also disagree with you about Capital punishment, tell me why we should pay more to keep Criminals in prison, than we pay to put our children through school, It also seems to me that it would be better to spend our money on helping the Victims of Criminals. Think about it and remember the preamble to the Constitution

says We the people, not
We the politicans shall
run the government.

Sincerely
Jack Douglas
6317 SE Clinton
Portland Oregon
97206

RECEIVED
STATE HWY ENGR
FEB 11 '77
REFER TO
FOR
DR Sign Act Info

RECEIVED
FEB 1 1977
OFFICE
DIRECTOR of T... PORTATION

STATE OF OREG

INTERC CE MEMO

TO: ROBERT P. HAMILTON
Director of Permits

DATE: February 22, 197

FROM: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: Wide-load, peak-hour restrictions
Portland metropolitan area

RECEIVED
DEPT. OF HIGHWAYS
FEB 23 '77
REFER TO
FOR

The technical advisory committee assisting the Highway Division in reviewing the operations of the Banfield Freeway has recommended limiting the travel of overwidth vehicles during peak hours. The recommended restriction would affect all oversize vehicles which are operating under permits in the Portland metropolitan area. The revised peak-hour revision would be from 6:30 to 9:30 a.m., and 3:30 to 6:30 p.m. The prime concern of the committee is that oversize vehicles are now allowed to travel on the narrow, 11-foot wide lanes of the Banfield Freeway (and I-5) during peak hours, causing congestion.

The Banfield Technical Advisory Committee is comprised of representatives of Portland, Multnomah County, ODOT, Tri-Met, DEQ, state police, local business people, and citizen groups. The committee was formed in April 1975 to monitor the planning and construction of the HOV lane project; since the opening, the committee has been monitoring the operational aspects.

The problems with overwidth vehicles traveling on the Banfield Freeway have also been experienced on other freeways in the congested metropolitan area. Therefore, the committee's recommendation restricting overwidth vehicles during the peak hours is to include the freeways in the following places:

I-5, from the N. Tigard interchange to the Interstate Bridge

Banfield Freeway , from Southeast 82nd Avenue to the I-5 interchange

I-405 (Stadium Freeway) in its entirety

Sunset Freeway, from the I-405 Freeway interchange to the Beaverton-Tigard Highway interchange (ORE217)

In reviewing the current restrictions mobile homes 12-foot to 14-foot wide would have their hours extended slightly; mobile homes 10-foot to 12-foot wide would be restricted (a new requirement) from freeways in the Portland metropolitan area.

Overwidth trucks which exceed the legal width would be restricted (a new requirement since now there are no limitations on travel times except for hours of darkness and holidays).

The peak-hour restrictions should be applied to all annual permits and single-load permits for both trucks and mobile home travel. The committee realizes that since many of these vehicles are under annual permits, implementation will require a year to complete.

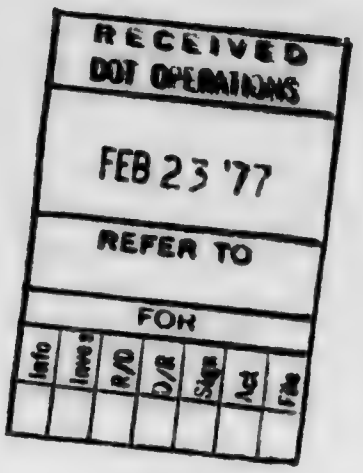
Please review the committee's recommendation for submittal to H. S. Coulter. Attached is a letter from Jerry Street, Banfield Project Engineer, discussing some of the problems experienced on the Banfield Freeway due to overwidth vehicles.

If you have any questions concerning the restrictions, please feel free to contact me or Jerry Street.

ebg

attachment

cc: [redacted]
H. S. Coulter



FORM 81-734-7030

OREGON STATE HIGHWAY DIVISION
INTER-OFFICE CORRESPONDENCE
3700 S.E. 92ND AVE.
PORTLAND, OREGON 97226

FILE: 26-1436
210

FROM: JERRY C. STREET
RESIDENT ENGINEER

Jerry C. Street

SUBJECT: BANFIELD H.O.V. LANE
T.A.C. MEETING
DECEMBER 21,1976
OVERSIZED VEHICLES

TO: ROBERT BOTHMAN
ASS'T STATE HIGHWAY ENGINEER

At the last Banfield H.O.V. Lane Technical Advisory Meeting held on December 21, 1976, it was decided to recommend the removal of all oversize vehicles from the Banfield Freeway during the operating hours of the H.O.V. Lane. This would be from 6:30 to 9:30 A.M. and 3:30 to 6:30 P.M.. The vehicles affected would be all vehicles greater than 8-feet in width which must have State issued permits to use the facility. These permits would be issued with a rider attached to them not allowing use of the Freeway during the above mentioned hours. This action is recommended to correct a serious problem caused by these vehicles using the Banfield during the hours of the use of the H.O.V. Lanes. These extra wide vehicles require two lanes when traveling around curves on the narrow lanes of the Banfield. When they use the center lane of the Banfield, the trailer projects into the H.O.V. Lane causing traffic to follow at a greatly reduced rate of speed. This impairs the effectiveness of the H.O.V. Lanes. When they use the outside or right lane of the Banfield, other vehicles are forced to get around them by using the H.O.V. Lane. A great many of these vehicles have trouble reentering the normal lanes and are being stopped by the State Police as H.O.V. Lane violators. The committee feels that the effectiveness of the H.O.V. Lanes is being threatened by allowing oversized vehicles to use the Freeway during peak rush hours. Though, out of the jurisdiction of the Banfield T.A.C., it was recommended that the above mentioned rider be attached to all oversize vehicle permits in the Portland Metro area during the peak rush hours.. This zone would cover I-5 from Tigard Exit to Interstate Bridge, I-80N from 82nd Ave. to I-5, the I-405 Loop in its entirety and the Sunset from I-405 to the 217 Exit. The hours would be from 6:30 to 9:30 A.M. and 3:30 to 6:30 P.M.. I recommend that the above mentioned restrictions be made as soon as possible.

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O.S.H.D. - METRO
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ROBERT W. STRAUB
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310

February 18, 1977

Mr. Lyle D. Sprague
2149 SE 76
Portland, Oregon 97213

Dear Mr. Sprague:

The number of regular travel lanes on the Banfield Freeway has not been reduced. An additional lane was created for buses and three or more person carpools by slightly narrowing existing lanes and eliminating shoulders.

Since the lanes were created, traffic on the Banfield has increased by eight percent while speed and accident rates have remained about the same. The HOV lanes have not caused more congestion nor accidents. At the same time bus ridership on the Banfield has increased significantly.

In Los Angeles, the special lanes were removed from the Santa Monica Freeway because a judge found that the California Transportation Department did not properly study the project before it was begun. We are not going to permanently impose something on the Banfield or any other freeway without reviewing all of the positive and negative aspects.

The Highway Division is presently conducting a study of possible permanent transit projects along the Banfield. I urge you to learn more about these projects and voice your opinions about them to the appropriate people in the Portland Highway Division office.

Sincerely,

Governor

RWS:el

bcc: Dept. of Transportation

COPY

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97215

Gov. Straub
Salem, Ore.

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FEB 1 : 1[illegible]
Governor's Office

2149 SE 76
Portland, Ore.
2-8-77

Dear Sir and Friend, -

I have watched this piece on I 5 re [illegible] of a private corporation trying to steal our land of a federally built hwy, from the people.

Jim Fitzpatrick, Gov. Brown under similar circumstances, often could better, in my opinion, do the people what they want. All of it.

Can you do the same for the [illegible] and stop it with your veto. Save [illegible] and their [illegible], believing in Govt.

Thank you

Yours truly

[illegible]

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Please prepare draft reply
for Governor's signature
by 2-18
Thank you.

PLEASE RETU
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RECEIVED
OFFICE
DIRECTOR of TRANSPORTATION

ROBERT W. STRAUB
GOVERNOR

Oregon State Highway Division

METROPOLITAN SECTION, 5821 N.E. GLISAN, PORTLAND, OREGON 97213

Telephone 238-8226

February 17, 1977

TOM MC CALL
KEX Radio
2130 Southwest Fifth Avenue
Portland, OR 97201

I read your commentary in the news media relative to the Banfield Freeway high-occupancy-vehicle (HOV) lanes with considerable interest. I am attaching a quarterly report that covers the first-year's operation.

We are daily monitoring a variety of impacts of the project, including traffic volumes, traffic speeds, accidents, carpool ridership, bus ridership, occupancy rate of vehicles, auto speeds, ramp volumes, and air quality on the freeway and adjacent arterial streets. These are being accomplished under a federal monitoring program which will be concluded in July 1977.

I believe the project is providing several indications of a successful demonstration.

There is a substantial difference between the Portland demonstration and the Los Angeles project. In Los Angeles the freeways were allowed to bog down with excessive traffic before the lanes were removed from availability to regular motorists and dedicated to HOV. This was done with no consideration of the impacts. In Oregon additional lanes were developed; therefore, there was an immediate relief to the remaining lanes for the regular motorist. Oregon's demonstration project involves a forward move towards addressing the movement of an increasing number of people from the suburbs,where population growth is happening, traveling downtown and to industrial employment areas where the jobs are developing. The Banfield project is providing an attractive alternative at a point prior to the public becoming further fixed upon the use of the single-occupant auto.

The monitoring program involves an advisory committee, consisting of staffs from the various local jurisdictions, private business persons, neighborhood organizations, state police, and highway personnel who are monitoring the project.

The investment has been extremely small in providing this demonstration. The resurfacing was a requirement regardless of the HOV lanes. The center concrete median was a safety requirement due to the rotted wood posts and high-accident experience. The only cost attributable to the HOV lane experiment was the addition of pavement marking and the turnouts constructed to facilitate the new project.

ROBERT N. BOTHMAN
Ass't. State Highway Engineer

ebg

attachment

cc: R. A. Burco
[redacted]
H. S. Coulter

RECEIVED
DOT OPERATIONS
FEB 18 '77
REFER TO

8259

Gresham, Oregon
Outlook
(Cir.2XW.14,664)

FEB 10 1977

NOTED
H. S. COULTER

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#8303

Allen's P. C. B. Est. 1888

Highway Engineering Sometimes Suspect

The Outlook carries a letter to the editor today in which a subscriber complains about the bicycle paths on Powell Boulevard.

He isn't concerned about the bike paths as such but rather the curious engineering which forces eastbound buses on Powell to stop out in the middle of the street to discharge passengers. The protective curbing for the bike paths keeps the buses from pulling over to the side as they would in normal situations.

This is just another incident which makes us wonder what highway engineers are thinking about. There is no way buses can pull over and as a result, a long line of cars must follow along behind, hopelessly blocked.

Another engineering faux-pas involves the HOV lanes on the Banfield freeway. The HOV lanes, of course, are in the far left lane, closest to the middle of the road.

Tri-Met buses coming from the east and hoping to exit at the Lloyd center turn off, must cut across three lanes of traffic to reach the far right. As a result, most buses stay in the regular lanes, preferring not to use the HOV lane.

Both the Powell situation and that on the Banfield can only be blamed on poor engineering. Meanwhile the commuters suffer.

OREGON STATE HIGHWAY DIVISION

Order for State Force Work

Contract No. 8259

APPLYING TO CONTRACT PROJECTS

Order No. SUPPLEMENT of NO. 7

Section N.E. UNION AVENUE - 82ND AVENUE Date FEBRUARY 9, 19 77

Highway COLUMBIA RIVER F.A.P. No. U - 323 (27)

County MULTNOMAH Prefix 26 - 1051 Account No. 279 - 07

Description of Work To Be Done: State Forces to furnish, install and maintain the air quality environmental testing trailer and its components, including the nitrogen oxide analyzer testing equipment. Work is complete.

Location by Station Numbers:

The trailer is located in the Lloyd Center Parking Lot near the N.E. 19th Avenue and Multnomah Street Intersection.

Estimate of Quantities and Costs:

Original Order	$ 15,000.00
Supplement	$ 10,750.00
New Total (Actual Costs)	$ 25,750.00

FHWA-ORE DIV APPROVED EFFEC. 3-15-77

Explanation:

This supplement is necessary to cover the amount of the overrun of costs experienced by State Forces purchasing and installing the environmental trailer and its components. See the back of this order for an explanation of the cost overruns.

INSTRUCTIONS

Submit a separate order for each piece of kind of state force work to be undertaken. Use the account number applying to that work as indicated in the account numbers assigned to state force work on contract jobs.

Five copies of the order are to be submitted to Salem. After final approval, two copies will be sent to the Regional Engineer and one copy to the Resident Engineer.

Project authorization $2,075,000.00

Present estimate of project cost, including $ 10,750.00 for work under this order $2,072,167.19

Expected under-run or overrun (amount) . . . . . $ 2,832.81

Expected under-run or overrun (per cent) . . . . . 0.13 %

Space to right of this line is for use of Salem Office

Submitted by: Jerry C. Street
JERRY G. STREET Resident Engineer

Approval Recommended: Maurice Cyft
Regional Engineer

Approval Recommended: For: 1
Construction Engineer or Bridge Engineer

Approved: C V Rowell 3-15-77
Construction Engineer

#8259

FORM 81.734.3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Portland, OR 97213

January 17, 1977

FILE: 26-1436
(170)

FROM: R. N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: Banfield HOV lane project
possible court action

TO: MEMO TO THE FILE

I advised Mr. Jerry Horton, attorney, that the initial cost for construction of the Banfield Freeway, completed in 1958, was $6,833,000, and that subsequent cost for repaving, headlight glare shield, and HOV lane turnouts, median barrier, and 1975 repaving totals $2,424,000. The total expenditures for construction and reconstruction to date are $9,257,000.

I told him these costs did not include right-of-way, engineering, or maintenance.

He said he intended to file a legal brief the week of January 17. He advised the above information was adequate for his initial brief, and if he was successful he would be in contact for additional information.

ebg

cc: [redacted]
H. S. Coulter
L. W. Rulien
Walt Barrie

NOTED
F. B. KIRK

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JAN 18 '77
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#8259

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300
Salem OR 97308

DATE: January 10, 1977

In reply refer to: 1041EC.2

SUBJECT: U. S. DOT Project FH-11-9127
Air Quality Monitoring on Banfield HOV Lanes

FROM: G. L. Green, Division Administrator

TO: Mr. H. Scott Coulter, State Highway Engineer
Salem, Oregon

We have reviewed the proposal to change the location of three of the "grab bag" samplers as described in Mr. Hunter's December 29 letter and have no objection to this move. You may proceed as requested.

Please supply this office with two copies of a sketch showing the old and new location of this equipment. One copy will be sent to Mr. Bissell in our Washington, D.C. office.

G. L. Green

CC:
Wash DC (HRS-33 Howie Bissell) w/att

RECEIVED
STATE HWY ENGR
JAN 12 '77
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Patton
FOR
DIR | C/S | Act | File

cy Johnson
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Bud George
1-12-77

#8259

December 29, 1976

Mr. Glen L. Green
Division Administrator
Federal Highway Administration
P. O. Box 300
Salem, OR 97308

Dear Mr. Green:

Air Quality Monitoring
Banfield HOV Project

The Oregon Highway Division is currently conducting an air quality monitoring program as a portion of the Demonstration Grant (US DOT FH-11-9127) for evaluation of the Banfield HOV Project. The air quality section of the grant includes collection of carbon monoxide, oxides of nitrogen, lead, and meteorological data. Six portable "grab bag" samplers are in operation for the monitoring of CO. A portable weather station is collecting data for use with CO. Traffic information is also being taken on the Banfield, its ramps, and along arterials in conjunction with the CO samplers.

The Oregon Department of Environmental Quality decided upon the original sampling sites and has requested that the location of several of the monitoring sites be changed to increase the value of data being collected in the Banfield Corridor. In response to the DEQ's request, we propose to change the location of three of the "grab bag" samplers to obtain background concentrations of CO within the Banfield Corridor. Three of the samplers will remain, along with the meteorological station, to maintain continuity of data for the HOV study. No changes are to be made to the nitrogen oxides and lead sampling program.

Your concurrence is requested.

Very truly yours,

E. S. Hunter
Deputy State Highway Engineer

bc H. S. Coulter
R. L. Schroeder
R. N. Bothman
G. A. Potter
L. E. George

GAP/AS:ss ja

#8257

ROBERT W. STRAUB
GOVERNOR

December 10, 1976

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310

Mr. B.L. Burnett
16702 SE Haig
Portland, Oregon 97236

Dear Mr. Burnett:

The average daily traffic on the Banfield has increased from 26 thousand vehicles in 1958 to 110 thousand in 1976. The freeway's capacity is 60 thousand vehicles a day.

Something must be done to get more people to travel in fewer vehicles or the Banfield will get totally jammed. The High Occupancy Vehicle or express lanes for buses and carpools is an experiment we are testing as we look for solutions.

Please remember that the express lanes did not take away from existing regular lanes. The Highway Division made the express lanes by removing shoulders and slightly narrowing the regular lanes.

There is general agreement that the present High Occupancy Vehicle lanes on the Banfield are not the perfect solution. However, they have helped increase the numbers of people who can use the Banfield without costing a large amount of money or increasing safety hazards.

I am enclosing a recent report on the Banfield experimental project for your information.

Sincerely,

Governor

RWS:cl

NOTED
F. B. KLABOE

bcc: Dept. of Transportation

COPY

BANFIELD FREEWAY - HIGH OCCUPANCY VEHICLE LANE

Project Report

August 1976

Preferential, high-occupancy-vehicle lanes were initiated on the Banfield Freeway on December 15, 1975. Ten new Tri-Met express buses were added operating from east county park-and-ride lots to the central business district on the HOV lane.

An extensive monitoring program is being carried out, funded by the federal government, to evaluate the effectiveness of the HOV lanes. Being evaluated are traffic volumes, travel speeds, occupancy rate, violation rate, and bus ridership. These are monitored on a monthly basis. Also being monitored is air quality. Monitoring is being done in the corridor, adjacent to the corridor, and on parallel arterials.

After eight months of operation the Banfield HOV lane project is successful in several goals.

Traffic volume in the Banfield during August was up 4 per cent over August 1975, representing an additional 3400 vehicles per day. At the same time, the vehicles on the parallel arterial streets were down 10 per cent--400 vehicles per day. The easier flow of traffic on the Banfield is attracting additional vehicles from arterial streets to the Banfield. The Banfield is absorbing additional growth in vehicles from east county.

Speeds inbound during the peak hour in August averaged 42 m.p.h. in the normal travel lanes, the same average speed as 1975. The speed in the HOV lane was 49 m.p.h. In the p.m. outbound peak hour, the average speed in August was 29 m.p.h., up 4 m.p.h. from the average speed of 25 m.p.h. in 1975. The speed in the HOV lane was 33 m.p.h. Auto speeds in the regular lanes are equal or better than prior to the project.

During August the HOV lanes carried 1100 persons in 274 autos and 10 buses during the peak hours. This represents 274 less cars in the auto lanes, an additional 10 buses operating in the corridor, and more important--the removal of 1100 people traveling in 900 autos with an occupancy rate of 1.2 in the normal travel lanes. With 1100 persons using the HOV lane, 20 per cent of the persons using the freeway are in the HOV lane, in 4 per cent of the vehicles.

The success in attracting carpool riders and bus riders has been slow and gradual since the initiation of the project. The potential has not been reached but does exist for carrying a tremendous increase in traffic in the corridor. The potential no way exists without the preferential treatment.

The accident rate is below the August 1975 rate. Rates did increase substantially with the initial opening of the project, but corrective measures on several ramps has corrected the problem areas.

The violation rate increased to 48 per cent in April. With additional enforcement in May, June, and July, the rate was reduced. Enforcement was reduced during the month of August, with the violation rate at 16 per cent an acceptable level.

In summary, after eight months the HOV lanes are continuing to attract ridership from carpools and buses. Travel speeds for occupants in the normal lanes are higher. The accident rate is normal. The project is providing both an alternative to the auto and an incentive to carpool and bus without negative impact upon the single-car occupant. The results are positive.

Coulter
12/6

11-22-76

RECEIVED
NOV 29 1976
Governor's Office

Dept of Trans.

Gentlemen

Re the express lane on the Kingsley

When are you going to stop this stupid idea.

It was recently split up terribly timing away with it.

Every time one dept thinks it knows as this evening about 4:15 PM. one of your state cars lowers himself into the lane.

He was going E in the express lane in an Orange or yellow orange pinto with the plate starting out E.104 pls annul.

He was going so fast I couldn't get all the number.

Try using the lane in the morning West, in evening East.

What a joke

Yours truly,
Ed L Bennett
16702 S.E. Hail
Portland Ore
97236

RECEIVED
DEC 1 1976
OFFICE
DIRECTOR OF TRANSPORTATION

8254

ROBERT W. STRAUB
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310

November 30, 1976

RECEIVED
DOT OPERATIONS
DEC 3- '76
REFER TO
FOR
Info | Imes | R/D | D/R | Sign | Act | File

Ms. Margaret A. Flynn
604 East Scenic Drive
The Dalles, Oregon 97058

Dear Ms. Flynn:

Experience in Portland and other cities shows that adding freeway lanes does not reduce traffic congestion. More lanes simply attract more traffic. The Banfield was designed to handle up to 60 thousand vehicles a day. Current usage is about 110 thousand vehicles a day.

The solution is to get more people into fewer vehicles. This will untimately free up all traffic lanes so that people like you who cannot car-pool might have a more relaxed trip in their cars. It is hoped that more and more people will see the advantage of either car-pooling or riding the bus. Without the HOV lanes there is no advantage to either of these options.

NOTED
F. B. KLABOE

The experimental high occupancy vehicle lanes on the Banfield have not reduced the number of traffic lanes. Space for the lanes came from eliminating the paved shoulders and narrowing the existing traffic lanes in certain places.

I am enclosing a report on the HOV lanes which was compiled recently by the State Highway Division.

I understand that you are concerned about the lack of a community college in The Dalles. Under Oregon statute, voters must decide for themselves whether or not they want community college services. This November the voters in Wasco County decided to establish an area education district. This is the first step of an effort to bring community college courses into The Dalles area. A district board was formed to establish policies and oversee a fund-raising effort. By July 1, 1977, the board should be able to contract with nearby colleges to provide educational services in The Dalles. This means that, if taxpayers agree, teachers from these colleges could be paid to teach courses in designated areas around the city.

COPY

If you would like more information, I suggest that you call Mr. Paul Hendrix, the new board chairman, at telephone #296-4923 or the Department of Education's Division of Community Colleges at telephone #378-8609.

Sincerely,

Governor

RWS:bh

bcc: DOT, Education

IGH OCCUPANCY

ect Report

gust 1976

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BANFIELD FREEWAY - HIGH OCCUPANCY VEHICLE LANE

Project Report

August 1976

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After eight months of operation the Banfield HOV lane project is successful in several goals.

Traffic volume in the Banfield during August was up 4 per cent over August 1975, representing an additional 3400 vehicles per day. At the same time, the vehicles on the parallel arterial streets were down 10 per cent--400 vehicles per day. The easier flow of traffic on the Banfield is attracting additional vehicles from arterial streets to the Banfield. The Banfield is absorbing additional growth in vehicles from east county.

Speeds inbound during the peak hour in August averaged 42 m.p.h. in the normal travel lanes, the same average speed as 1975. The speed in the HOV lane was 49 m.p.h. In the p.m. outbound peak hour, the average speed in August was 29 m.p.h., up 4 m.p.h. from the average speed of 25 m.p.h. in 1975. The speed in the HOV lane was 33 m.p.h. Auto speeds in the regular lanes are equal or better than prior to the project.

During August the HOV lanes carried 1100 persons in 274 autos and 10 buses during the peak hours. This represents 274 less cars in the auto lanes, an additional 10 buses operating in the corridor, and more important--the removal of 1100 people traveling in 900 autos with an occupancy rate of 1.2 in the normal travel lanes. With 1100 persons using the HOV lane, 20 per cent of the persons using the freeway are in the HOV lane, in 4 per cent of the vehicles.

The success in attracting carpool riders and bus riders has been slow and gradual since the initiation of the project. The potential has not been reached but does exist for carrying a tremendous increase in traffic in the corridor. The potential no way exists without the preferential treatment.

The accident rate is below the August 1975 rate. Rates did increase substantially with the initial opening of the project, but corrective measures on several ramps has corrected the problem areas.

The violation rate increased to 48 per cent in April. With additional enforcement in May, June, and July, the rate was reduced. Enforcement was reduced during the month of August, with the violation rate at 16 per cent an acceptable level.

In summary, after eight months the HOV lanes are continuing to attract ridership from carpools and buses. Travel speeds for occupants in the normal lanes are higher. The accident rate is normal. The project is providing both an alternative to the auto and an incentive to carpool and bus without negative impact upon the single-car occupant. The results are positive.

Coalition
11/16

Transportation

604 East Scenic Drive
The Dalles, Oregon
November 3, 1976

008293

Please prepare draft reply
for Governor's signature
by 11-18
Thank you.

Governor Bob Straub
Capitol
State Office Building
Salem, Oregon

My dear Governor, Mr Straub:

All fall I have been working at our old Landmark two days a week working in our yard at home, getting it ready for winter, and as I keep busy I have a fermenting sort of cancer stewing inside me. I am not using my typewriter. I feel I am working of this dissatisfaction better by using long hand.

First, it is the unhappiness, restlessness that I have worked so long trying to be a good citizen, trying to teach and train the children I taught to be good citizens and now I'm retired and I see this building just above me partially used, or useless when it should be a Junior College to stimulate and encourage our young people for greater and better living

I am the sister of the young lady you and Mrs Strahl met in Mexico some years ago. She was wearing a large hat. She was born in Caldon, Oregon. I too was born there

Anyhoo, I am 65 as of Oct. 29th and I'm ready to tear the country apart. I want a Junior College here

It is ridiculous that The Dalles is still without a Junior College. I really worked so hard and so

diligently for it and everyone wanted to keep our old T. B. Hospital and now home for the retarded open for the retarded because I pro-

tunities would be provided should this small city have a Junior College

I know you cannot provide this, but you could encourage it.

Yesterday my other sister and I were in Portland for a few hours. We started home right at 3 P.M. to

avoid traffic rush and to arrive home before dark.

And for the 3rd time my blood pressure rose and palpitated

Here we were in traffic and that third isle free, not being used and we had to drag along because there were just two of us.

I feel I am a real rebellionist. I'm paying taxes and here I have

not the freedom to move over in this empty lane and facilitate driving traffic.

My husband Bob, is a Railroad Engineer and since the R.R. was taken out of The Dalles, he must drive to Portland when he is called for work. Okay! He is called at any hour and he cannot have 3 people in the car. He had this problem. If it were only hours in traffic he had to hang back because he was one in the car.

I told you I wanted to move to Portland when the R. R was moved from The Dalles. But Bob had our home built and he is attached to it because he built it. I want to be where the action is. And so, now that I am not working this town offers nothing! Sure I do volunteer work, but I want more, I would like to be taking some classes improving my mind. I want to do things I was always to busy to do when I taught.

And here we are no Junior Colleges and when we do drive to Portland for an appointment we get stuck in the busy lane when a third lay open. I feel very trapped! They say one person can do a lot. Yes, I would ... in saving our Landmarks

but how do I go about securing
a Junior College ??
It has been beaten down now
3 times !!
And I think the expense of fifteen
that third lane to accomadate 3 in
a car nuts.
My husband is one example. When
he is called for work he has 2 hours
to get there. He cannot invite a party
to go.
When my sister and I go it is to a
Doctor because she was hit by a
car when she was walking home
from work. The young woman
who hit her was fined $16.50. The
young woman was working for
Welfare, she had no brakes & no In-
surance!! My sister, Frances, has
had her health impaired by a serious
Concussion. She was forced to
give up her job as Manager of Singer
Sewing Machine. She retired a year
early and is still under Doctors
care due to her serious injury. Then
we go to Portland and get slowed
up because we cannot use that
3rd lane. Only has the election suited me
Had not Carter been elected I think

Bob and I are leaving for Russia Nov. 10th with Portland University Alumni. Perhaps by the time I return I can appreciate our inconveniences, but I am still very stormy about not being able to use the facilities at my back door here on Scenic Drive for a Junior College. I am feeling very "trapped" in my old age.

It is passed midnight, so I will say "Please help."

Very Sincerely

Margret A. Flynn

RECEIVED
NOV 10 1976
OFFICE
DIRECTOR of TRANSPORTATION

8259

FORM 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Portland, Oregon 97213

November 29, 1976

RECEIVED STATE HWY ENGR NOV 30 '76 REFER TO FOR ... FILE: 26-1959 D/R R/D Inve. Sign Act File

FROM: GARY ROSS
Asst. Transitways Project Engineer

SUBJECT: Questions asked about Banfield HOV Statistics at 11/18/76 CAC Meeting

TO: MEMO TO THE FILE

A presentation on the Banfield HOV lanes was given by Jerry Street at the Banfield Citizens Advisory Committee meeting on November 18. After the presentation, the members of the Citizens Advisory Committee asked several questions. Below is a summary of those questions:

1. Several people felt there was a need for statistics on peak hour use of buses other than Flyer buses.
2. Committee members wanted to know what percent of buses used the HOV lanes.
3. They wanted to know how many bus riders were in HOV lanes.
4. They wanted to know the total number of buses on the Banfield.
5. They wanted to know how many people total were using HOV compared to the traffic lanes in the peak hour.
6. They wanted to know what traffic and bus ridership was like before the HOV lanes were put in.
7. They wanted to know the average ridership of buses during the peak hour for HOV lanes.
8. They felt that some seasonal adjustments should be made to the charts and numbers.
9. They felt that there was a need for more data in order to draw any concise conclusions.
10. They wanted more background data on the city streets.
11. They wanted to know when the decision would be made whether or not to have HOV lanes and what input people would have to that.
12. They wanted to know how people went to work before the Banfield Flyers.
13. They questioned the use of the name CARPOOL and felt the statistics were not exactly correct in that it was not corrected for families using the HOV lane, making the HOV car counts high.

Because of the number of questions that were raised by the discussion on the present Banfield HOV, I feel it is necessary to have a meeting with Jerry Street, Bill McConnel, Gary Waltenbaugh, Bill Lieberman, Don Adams and myself in the next few days in order to come up with a new criteria for producing data on the Banfield HOV lanes that will be usable for the Banfield Transitway project.

These two projects are being tied together by the Citizens Advisory Committee and the general feeling was that if the Banfield HOV lanes were not justifiable, then perhaps HOV's in the future would not be justifiable. This does not say that the figures that are produced have to prove beyond a shadow of a doubt that the present HOV lanes are a rousing success. However, along with the new data, we must develop reasons for some of the failure in the system. Those reasons are available, i.e., the short distance, the inaccessability, the narrow lane widths, etc.

mb

8259

OREGON STATE HIGHWAY DIVISION

METROPOLITAN SECTION • 5821 N.E. GLISAN • PORTLAND, OREGON 97213
Telephone 238-8235

November 22, 1976

BILL LIEBERMAN, Senior Planner
Tri-Met
520 Southwest Yamhill
Portland, OR 97204

It came to light a few weeks ago that Tri-Met and the Highway Division were anticipating different operations of the HOV lane in 1990. I had it in mind that the HOV lanes would be open to all traffic in the off-peak hours. Your concept at Tri-Met was that the HOV lanes would be reserved for HOV traffic 24 hours a day.

As a result of our discussion, I asked Jack Sullivan, our Urban Studies Coordinator, to analyze the impact of the HOV lane being opened to all vehicles in the off-peak period. I am enclosing Jack's comments and a tabulation (Table 1) that he has made on the capacity of the freeway under the HOV option.

As you can see from viewing this data, the freeway would operate at level of capacity B with all lanes open to traffic. Under this condition transit buses could easily function without the need for a preferential lane.

As Jack Sullivan points out in his last paragraph and as we discussed, there is a potential operational problem at the median bus ramps, at Holladay, and at I-205 with off-peak auto use of the HOV lanes. Some special effort would have to be made to insure that these ramps would operate safely at both the freeway and the street at-grade end.

I would suggest that some commentary be written reflecting Tri-Met's concerns about such an operation since it might bear in the preparation of the environmental impact statement and would certainly help me in our presentation to the public to have some indication of how Tri-Met would prefer to operate those HOV lanes and why. This would be especially true since the alternative No. 3, one of the three build HOV alternatives, is comparable to today's HOV lane facility which operates only during peak hours.

DON ADAMS
Transitways Project Engineer

mb
enclosure

cc: Gary Waltenbaugh

NOTED
F. D. KLABOE

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NOV 23 '76
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

STATE OF OREGON
Department of Transportation

INTER OFFICE MEMO 26-1959
310

DATE: November 15, 1976

File No.: HWY 2

TO: Don Adams
Transitways Project Engineer
Metro Section

FROM: Jack Sullivan
Urban Studies Coordinator

SUBJECT: Banfield Transit Study - Impact on Buses of Opening HOV Lanes (1990) to All Vehicles In Off-Peak

You raised the subject question during our telephone conversation of November 10. Only two future alternatives, 13 and 17B, incorporate the preferential HOV lanes in their design. Table 1 (attached) lists the expected 1990 volumes during an average off-peak hour for these two alternatives at two locations on the Banfield Freeway. For analysis purposes, the off-peak period discussed here occurs from about 9:00 AM to 3:00 PM.

Table 1 shows that with the HOV lane open to all vehicles during the off-peak period, the average lane volume should not exceed 1,000 vph in 1990 anywhere on the Banfield Freeway. At these volumes, a level of service "B" would be expected with vehicle operating speeds greater than 50 mph. Thus, there should be no significant reduction in travel time for buses on the Banfield if they were required to mix with other vehicles during the off-peak period. Operating speeds less than 50 mph begin occurring when lane volumes begin to exceed 1,200 vehicles per hour per lane. If it were the future policy to open the HOV lanes to all vehicles during the off-peak period, buses would not be significantly impacted at lane volumes less than about 1,200 vph per lane. If off-peak volumes exceeded this rate, then possibly the peak period could be extended.

Another question to be answered if such a policy were implemented would be whether to allow all vehicles using the HOV lanes in the off-peak to also use the lift-out ramps at the west end (Holladay) and at the east end (I-205). Certainly the signing and safety problems would need addressing.

JS:smh
Attachment

ME PR PR1 PR2 DE
C.C.I.D. - METRO
NOV 17 1976
FILE T/A

81-125-1367

TABLE 1

BANFIELD FREEWAY - 1990 OFF-PEAK HOURLY VOLUMES

Location	Alt.	1990 Off-Peak Hourly Traffic Volumes					
		All Lanes - Peak Direction	# Lanes - Peak Direction		Ave. Lane Volume Peak Direction		Lane Capacity At SL "D"
			Non HOV	HOV	HOV Not Open	HOV Open	
1. 21st Avenue	13	3,860 vph	3	1	1,290 vph	965 vph	1,650 vph
	17B	3,470 vph	3	1	1,160 vph	870 vph	1,650 vph
2. East of 42nd Ave.	13	3,240 vph	3	1	1,080 vph	810 vph	1,650 vph
	17B	2,740 vph	2	1	1,370 vph	915 vph	1,650 vph

8259

Form FHWA 121 (Rev. 8-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
222 S.W. Morrison Street
Portland, Oregon 97204

DATE: November 17, 1976

SUBJECT: Inquiry From Senator Packwood's Office

In reply refer to: 10ED

FROM : Director, Office of Environment and Design

NOTED
E. S. HUNTER

TO : Mr. Glen L. Green
Division Administrator
Salem, Oregon

Today I received a telephone call from Mr. Bob Moore of Senator Packwood's office seeking information to respond to questions from State Senator Norman Howard.

Apparently Senator Howard had been led to believe that Interstate mileage could be put on the Banfield Freeway between I-5 and 82nd Avenue. I indicated that the Interstate mileage had been on that stretch but was moved to the Mt. Hood Freeway some years ago, and then ultimately withdrawn from the Interstate system. Senator Howard apparently has been concerned about the narrowness of the Banfield lanes. I indicated that this was an attempt to squeeze more capacity out of the existing facility and provide an incentive for more efficient use of the facility through transit and carpools.

I indicated that there was no hope that the section of the Banfield in question would be granted Interstate status.

Richard C. Cowdery

Richard C. Cowdery

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NOV 23 '76
REFER TO
FOR

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8259

OREGON STATE HIGHWAY DIVISION

November 9, 1976

HIGHWAY BUILDING • SALEM, OREGON • 97310

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator of Highways

Oregon State Treasurer
103 Capitol Bldg.
Salem, OR 97310

Attention: Merle Crowe

Re: Peter Kiewit Sons Co.
Contracts 8046, 8259, 8413

Please transfer $200,000 par value bonds deposited in lieu of retainage on our contract 8046 to contract 8250 ($20,000) and 8413 ($180,000). $270,000 par value should remain as a deposit in lieu of retainage on contract 8046.

Vernon E. Skoog
Controller

By _____
Janice H Peterson
Contract Payments Executive

JHP:mm

cc: Peter Kiewit Sons Co.

bc: C.W. Head
R. Church
C. Barrett

#8259

Form 81-734-3030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Portland, Oregon 97213

November 3, 1976

FILE: 26-1959 (330)

FROM: DON ADAMS
Transitways Project Engineer

SUBJECT: Banfield Transitway
HOV Connection to I-205

TO: MEMO TO THE FILE

copy in Banfield

On October 26, 1976 I met with Tony George to discuss the provisions to be developed in the South Banfield interchange to connect HOV traffic on I-205 to the HOV facility on the Banfield. As the design is presently conceived, no special connection will be made from I-205 to the Banfield. This might tend to discourage HOV traffic because the I-205 traffic would be required to weave across the Banfield traffic to gain access or to leave the Banfield HOV.

Tony George has asked: Is there a better way to handle the HOV? I advised, after some discussion, that it didn't appear there was an easy way to do it. We would look more closely at the possibility of accommodating a more efficient connection for HOV traffic to and from the south I-205 and the Banfield, but not from the Banfield north. The ramps from I-205 to the Banfield southbound to westbound and eastbound to northbound affort adequate weave across auto lanes to handle HOV traffic under the present design.

The investigation of modified ramping will attempt to assure that an opportunity for an HOV connection to be constructed in the future is not foreclosed.

mb
cc: R. T. Ewen

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NOV 2 - '76
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FOR
Info | Invest | R/D | D/R | Sign | Act | File

#8259

November 1, 1976

Honorable Dan Moose, Member
Multnomah County Board of
Commissioners
1021 Southwest Fourth Avenue
Portland, OR 97204

Dear Mr. Moose:

The operation of the Sanfield high-occupancy-vehicle (HOV) lanes is being monitored on a monthly basis by an advisory committee, consisting of the City of Portland, Multnomah County, Tri-Met, State Police, Department of Environmental Quality, and the Highway Division. This advisory committee is using data being collected for a monitoring program sponsored by the Federal Government which will evaluate the effectiveness of the project.

The advisory committee has considered, on two occasions, the use of the HOV lanes by trucks, but not just the larger truck/trailer combinations.

The findings of the committee has been that use of the facility by trucks is not consistent with the objectives of the project and would detract from the incentive to attract ridership to buses and carpools.

The use by trucks would require a change in the State statute that provides the Transportation Commission with authority to establish the HOV lane for buses and carpools.

Since the project is successful in providing for the movement of a substantial increase in traffic, in excess of 4,000 cars a day over last year and at a speed of 4 mph faster in the peak hour, it appears inappropriate to change the rules affecting the operation of the HOV lanes.

Your recommendation will be presented to the next advisory committee meeting for their consideration.

Very truly yours,

H. S. Coulter
State Highway Engineer

RNB:ebg 1a

bc R. A. Burco
F. B. Klaboe
E. S. Hunter
R. L. Schroeder
R. N. Bothman

MULTNOMAH COUNTY, OREGON
BOARD OF COUNTY COMMISSIONERS

COUNTY COURTHOUSE
PORTLAND, OREGON 97204
(503) 248-3304

DAN MOSEE
COMMISSIONER

October 26, 1976

State Highway Commission
Highway Building
Salem, Oregon 97310

Gentlemen:

The rules pertaining to the HOV lanes on the Banfield Freeway should be changed so that trucks could use them as well as busses and car pools, allowing all trucks and trailers which have a combination of three axles or more and a gross weight of 28,000#'s to use those lanes; or it could be broadened to include smaller trucks as well.

A change of this sort would eliminate some of the congestion and solve some of the problems which exist at present on that freeway.

Sincerely,

Dan Mosee

Dan Mosee
Commissioner

DM/ams

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cyclist

#8259

moba
media
box 4653
portland
ore 97208
223-1677

DIRECTOR'S FILE
Banfield Bus

BANFIELD FREEWAY / DIAMOND LANES

Channel 12 12/14/76 10:15

anchor

Well, tomorrow is the birthday of the diamond lanes on the Banfield freeway. And though the experimental program has had a very rocky first year, state transportation officials are pleased with the results so far. Gary Hill has more on the story.

Hill

story runs over film of Banfield, of HOV lanes and of neighborhood streets

The high occupancy vehcile lanes, or H-O-V for short, were officially opened on December fifteenth of last year to a storm of protest from Portland commuters.

At first the lanes were closed to all but car pool and bus traffic twenty four hours a day, five days a week. But the protests won a compromise with state transportation officials that eventually limited closure of the lanes to three hours a day.

To make the H-O-V lanes, other lanes were narrowed by a foot a piece and drivers were worried about accidents. There was also concern at first over whether the lanes would force more traffic onto arterial streets like Sandy boulevard.

Well now that the trouble plagued period of construction is over, statistics compiled during the last six months this year, compare favorably with those of the last half of seventy five.

According to the state, accidents have not increased appreciably. Arterial streets now have less traffic than before and there has been an increase in the number of people utilizing car pools and busses. Now, about twenty percent of those who travel the Banfield during peak hours, only use about four percent of the vehicles.

It's not a story of over night success, but Robert Bothman, an assistant highway engineer for the State Highway Division, says it is a victory for the state that the lanes are still in existence when California motorists managed to have a similar system in Los Angeles over turned in the courts. And Bothman says it all has to do with compromise.

Bothman

Well, Oregon had a distinctive different project in that we did not take away an auto lane from a heavy congested freeway. We actually added an auto (?) lane for the H-O-V.

moremoremore

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DEC 17 1976
OFFICE
DIRECTOR of TRANSPORTATION

2-2-2-2

Banfield HOV lanes, ch 12, 12/14

Bothman cont

In California, they did the other thing. They took away a lane from a very highly congested freeway and the impacts of that on the arterial streets and connections were just too severe.

Hill

So, one year later, no one is calling the diamond lanes an over whelming success. But Bothman says there is something to be said for Portlander's acceptance of the high occupancy concept. And he predicts more people will use the lanes as time goes on.

Gary Hill, channel twelve news, on the Banfield freeway.

#D-252-14212

# # # # #

1259

OREGON STATE HIGHWAY DIVISION

ERT W. STRAUB
GOVERNOR

F. A. BLACK
Administrator and
State Highway Engineer

November 1, 1976

Honorable Dan Mosee, Member
Multnomah County Board of
Commissioners
1021 Southwest Fourth Avenue
Portland, OR 97204

Dear Mr. Mosee:

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State Highway Engineer

RNB:ebg ia

bc R. A. Burco
F. B. Klaboe
E. S. Hunter
R. L. Schroeder
R. N. Bothman

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DIRECTOR of TRANSPORTATION

BOARD OF COUNTY COMMISSIONERS

COUNTY COURTHOUSE
PORTLAND, OREGON 97204
(503) 248-3304

DAN MOSEE
COMMISSIONER

October 26, 1976

ME EE PR1 PR2 DE
O.S.H.D. - METRO
OCT 28 1976
OE FILE T/A

State Highway Commission
Highway Building
Salem, Oregon 97310

Gentlemen:

The rules pertaining to the HOV lanes on the Banfield Freeway should be changed so that trucks could use them as well as busses and car pools, allowing all trucks and trailers which have a combination of three axles or more and a gross weight of 28,000#'s to use those lanes; or it could be broadened to include smaller trucks as well.

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Sincerely,

Dan Mosee
Commissioner

DM/ams

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cyest

State Highway Comm.
Salem, Or.
Here is the same problem we have locally for us all.

K. H. Robbins
220 SW Ankeny
Portland Or. 97204

Special car poolers' lanes run into dead end in Southern Califor

By ROBERT LINDSEY
New York Times News Service

LOS ANGELES — To get people out of their cars in an effort to cut down on pollution and traffic jams, state officials here recently turned over one lane in each direction of California's busiest freeway to buses and car pools. Reaction among city residents, known for their almost singular devotion to their cars, was fierce and predictable.

Motorists, finding themselves in ...ic jams even worse than usual on ... suddenly narrowed Santa Monica Freeway, demanded recall of the politicians, whoever they were, who had concocted the idea.

They filled local newspapers with letters assailing the scheme, citing it as evidence of an ominous trend toward government by Big Brother.

Newspapers campaigned against the project. Bumper stickers, petition drives and leaflet campaigns to kill the project flowered.

To cope with the requirement that only cars containing three or more persons could use the special, so-called "Diamond Lanes" (because of their diamond-shaped pavement markings), some motorists hired teen-agers and elderly persons to ride with them to work. Others purchased well-dressed store mannequins and life-size inflatable dolls on the back seats of their cars.

Finally, after five months of such turmoil, the opponents won. A federal judge ordered the state to give back the two lanes to one-man, one-car commuters. Once again, Los Angeles residents had demonstrated the strength of their addiction to the automobile.

More than three years ago, a new mayor, Thomas Bradley, took office here with a flat prediction that the city would break ground for a rail rapid transit system within 18 months.

Not only did the 18 months pass without progress but there is no prospect of a transit system being built, though it seems there are always new studies being instituted to plan one.

The mayor's experiences, and those on the Santa Monica Freeway, have provided other evidence that barring a prolonged, serious gasoline shortage, mass transportation faces a dim future in this, the quintessential urban expression of the automobile.

"The public won," said Glenda Foster, a secretary from a three-car family who drives to work alone and bristled at the long Diamond Lane delays. "The public paid for the freeways," she said, "and the government doesn't have a right to decide one day that we can't use them."

"The whole thing was criminal," said George Myers, a salesman who commutes in a two-seat, British-made sports car from Marina del Rey, an ocean-front apartment city that is a mecca for single people. "How can you have a car pool when you've got two seats? Even if I had a bigger car," Myers added, "I don't know anybody who lives where I do that goes to the same place at the same time."

The Southern California motorist has long been part of American folklore along with cowboys, mountain men and New York City cab drivers.

Other cities, such as Houston, Denver and Miami, have looked for answers here to their problems of congestion and long commuting times.

But the experience to date suggests that they will probably have to look elsewhere. It indicates, moreover, that perhaps once a community commits itself completely to the automobile, there may be no going back.

Many Californians swear there is no better system of transportation in the country than their marriage of automobile and freeway. Most of the time — about 18 hours a day — the system works splendidly. Visitors are amazed at the mobility of Californians, the ease with which they travel great distances by car.

But during the other six hours of the day, the morning and afternoon commuting periods, the freeways often become as choke... a blood clot.

The people... show no signs... cars for sybwa...

Three time... have rejected b... a rail transit ... June.

It is not t... mass transport... ries about one... and there is a ... tle system in ... the routes te... travel time ... people use it t... most part, the... are those with... the elderly, t... very young.

RECEIVED HWY ENGR 26'76 FEA TO FOR Sign Act Sign D/R

to Highway Comm.
Salem, Or.
Fee is the same problem we have locally Too
re all.

H. W. Babcock
220 S.W. Arthur
Portland Or. 97201*

THE SUNDAY OREGONIAN, OCTOBER 24, 1976

car poolers' lanes run into dead end in Southern California

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Newspapers campaigned against the project. Bumper stickers, petition drives and leaflet campaigns to kill the project flowered.

To cope with the requirement that only cars containing three or more persons could use the special, so-called "Diamond Lanes" (because of their diamond-shaped pavement markings), some motorists hired teen-agers and elderly persons to ride with them to work. Others purchased well-dressed store mannequins and life-size inflatable dolls on the back seats of their cars.

Finally, after five months of such turmoil, the opponents won. A federal judge ordered the state to give back the two lanes to one-man, one-car commuters. Once again, Los Angeles residents had demonstrated the strength of their addiction to the automobile.

More than three years ago, a new mayor, Thomas Bradley, took office here with a flat prediction that the city would break ground for a rail rapid transit system within 18 months.

Not only did the 18 months pass without progress but there is no prospect of a transit system being built, though it seems there are always new studies being instituted to plan one.

The mayor's experiences, and those on the Santa Monica Freeway, have provided other evidence that barring a prolonged, serious gasoline shortage, mass transportation faces a dim future in this, the quintessential urban expression of the automobile.

"The public won," said Glenda Foster, a secretary from a three-car family who drives to work alone and bristled at the long Diamond Lane delays. "The public paid for the freeways," she said, "and the government doesn't have a right to decide one day that we can't use them."

"The whole thing was criminal," said George Myers, a salesman who commutes in a two-seat, British-made sports car from Marina del Rey, an ocean-front apartment city that is a mecca for single people. "How can you have a car pool when you've got two seats? Even if I had a bigger car," Myers added, "I don't know anybody who lives where I do that goes to the same place at the same time."

The Southern California motorist has long been part of American folklore along with cowboys, mountain men and New York City cab drivers.

Other cities, such as Houston, Denver and Miami, have looked for answers here to their problems of congestion and long commuting times.

But the experience to date suggests that they will probably have to look elsewhere. It indicates, moreover, that perhaps once a community commits itself completely to the automobile, there may be no going back.

Many Californians swear there is no better system of transportation in the country than their marriage of automobile and freeway. Most of the time — about 18 hours a day — the system works splendidly. Visitors are amazed at the mobility of Californians, the ease with which they travel great distances by car.

But during the other six hours of the day, the morning and afternoon commuting periods, the freeways often become as choked as an artery blocked a blood clot.

The people curse the congestion, b show no signs of wanting to trade th cars for sybways and commuter trains

Three times in recent years, voter have rejected ballot proposals to finance a rail transit system, most recently in June.

It is not that Los Angeles has no mass transportation. Its bus system carries about one million passengers daily, and there is a convenient minibus shuttle system in the downtown area. But the routes tend to be circuitous and travel time long. Some middle-class people use it to get to work. But for the most part, the people who ride the bus are those with no choice — the poor, the elderly, the handicapped and the very young.

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HOV LANE PROJECT

BANFIELD FREEWAY
PORTLAND, OREGON

QUARTERLY REPORT

OREGON DEPARTMENT OF TRANSPORTATION
METROPOLITAN DIVISION OCT. 15, 1976

QUARTERLY
REPORT
US DOT FH-11-9127
DEMONSTRATION GRANT

Evaluation of Preferential Lanes for High-Occupancy Vehicles on the Banfield Freeway Portland, Oregon

Submitted to:

UNITED STATES DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

By:

OREGON STATE HIGHWAY DIVISION

15 October 1976

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I. NARRATIVE

This report summarizes what has occurred to date since the Banfield H.O.V. Lane project's implementation. Unique design criteria utilized for this project and operational problems will be elaborated on in this section.

On December 15, 1975, the Oregon State Highway Division opened High-Occupancy Vehicle (H.O.V.) Lanes on the Banfield Freeway in Metropolitan Portland. The opening commenced the first experimental effort designed to use preferential lanes to increase vehicle occupancy and reduce traffic congestion. The project was conceived as an immediate solution to a serious problem which had developed on the Banfield Freeway. The average daily traffic count for the Banfield had increased from 26,000 vehicles in 1958 to 100,000 vehicles in 1975. The Banfield was originally designed for a maximum of 1500 vehicles per lane per hour. In 1975, the peak hour volumes varied from 1800 to 2000 vehicles per lane, with average peak hour speeds 23 MPH Eastbound and 25 MPH Westbound. The plans for constructing another East-West freeway in the Portland area were abandoned in the later half of 1974. Therefore, it became imperative the Banfield be quickly up-dated.

A Technical Advisory Committee (comprised of representatives from the City of Portland, Multnomah County, State Highway, Tri-Met Transit, State Department of Environmental Quality, Mass Transit, State Police, Local Business and Citizen Groups) was formed to monitor the planning and construction of the project. This committee meets once a month to review the day to day operations of the project.

Unique design characteristics of this particular project are:

1. A High-Occupancy Vehicle (H.O.V.) is defined as a vehicle with three or more persons in it or a bus.

2. The H.O.V. Lanes were to be restricted to High-Occupancy Vehicles for 24 hours per day, 7 days a week.

3. The H.O.V. Lanes are developed next to the center median strip by tapered concrete median, which moved the alignment of the non-restricted traffic lanes the width of one lane to the right. The shoulder area was eliminated to gain the necessary width for an additional lane. At the completion of moving all traffic to the right, the median taper is reversed, creating an additional lane reserved for High-Occupancy Vehicles. No lane change is required for normal traffic. Eligible vehicles choosing to use the H.O.V. Lane must move left into the restricted lane. At the terminus of the H.O.V. Lane, the lane continues as a normal travel lane. The right-hand unrestricted lane is eventually terminated as a standard lane drop.

4. Emergency parking bays are provided at 2000-foot intervals. These bays are 150 feet long with a 75-foot taper section leading into and out of the bay. An emergency call box, tied directly to the State Police dispatch unit, is located at each bay.

5. Raised pavement buttons are located at 3-foot intervals along the entire length of the H.O.V. Lane between it and the non-restrictive lane. This

creates a rumble strip to alert motorists they are crossing an important divider.

6. Overhead signs and painted Diamond Lane Markers are used to inform motorists that they are in a restricted lane. These signs are located at every overhead grade crossing structure or about every 2000 feet. The Diamond Lane Markers are located in the H.O.V. Lane every 500 feet.

7. Tri-Met, the local transit district, added two new bus routes to take advantage of the H.O.V. Lanes. These routes are used only during the peak rush hour periods. Ten express buses, called Banfield Flyers, pick up patrons at Park and Ride lots in East County area, and transport riders to and from the City center using the Banfield Freeway H.O.V. Lanes.

8. In view of the fact that the Banfield H.O.V. Lane project represented an unprecedented innovation to the Portland area, it was recognized that an extensive marketing program would be required. The resulting program included:

a. News Conferences.

b. Periodic use of major local media to inform and educate the public.

c. Distribution of informational brochures to Banfield users to promote bus-use, carpooling and operational safety.

d. Distribution of posters for employee bulletin boards, public buildings and markets.

e. Encouragement of feature stories by local media.

f. The erection of 22 informational billboards at strategic locations along the feeder streets and in the corridor.

g. Slide presentations and discussions to central business district employers, designed to encourage commuter use of buses and carpools.

Some of the problems that have not materialized as expected and some new ones which have occurred are:

1. The weaving problem of vehicles changing lanes to get into or out of the H.O.V. Lanes has not been a problem.

2. The speed differential between vehicles using the exclusive and non-exclusive lanes does not adversely affect traffic.

3. The narrower lane widths (11-foot center lane) does not appear to be a problem.

4. The amount of enforcement needed to reduce H.O.V. Lane violations to an acceptable level has been more than anticipated. A great deal of time is expended by one police officer chasing down one violator to issue a citation. The officer must follow the violator to the end of the H.O.V. Lane in order to pull the vehicle over to the shoulder, which requires about 20 to 30 minutes of time spent in making one arrest. Adequate enforcement of the use of the H.O.V. Lanes requires two to three officers full time during peak rush hours.

5. Stalled vehicles sometimes created problems. Though emergency parking bays exist every 2000 feet along the freeway, motorists do not always reach them and stall out in the travel lane. State Police must then either push the stalled vehicle to a parking bay or flag traffic around the vehicle.

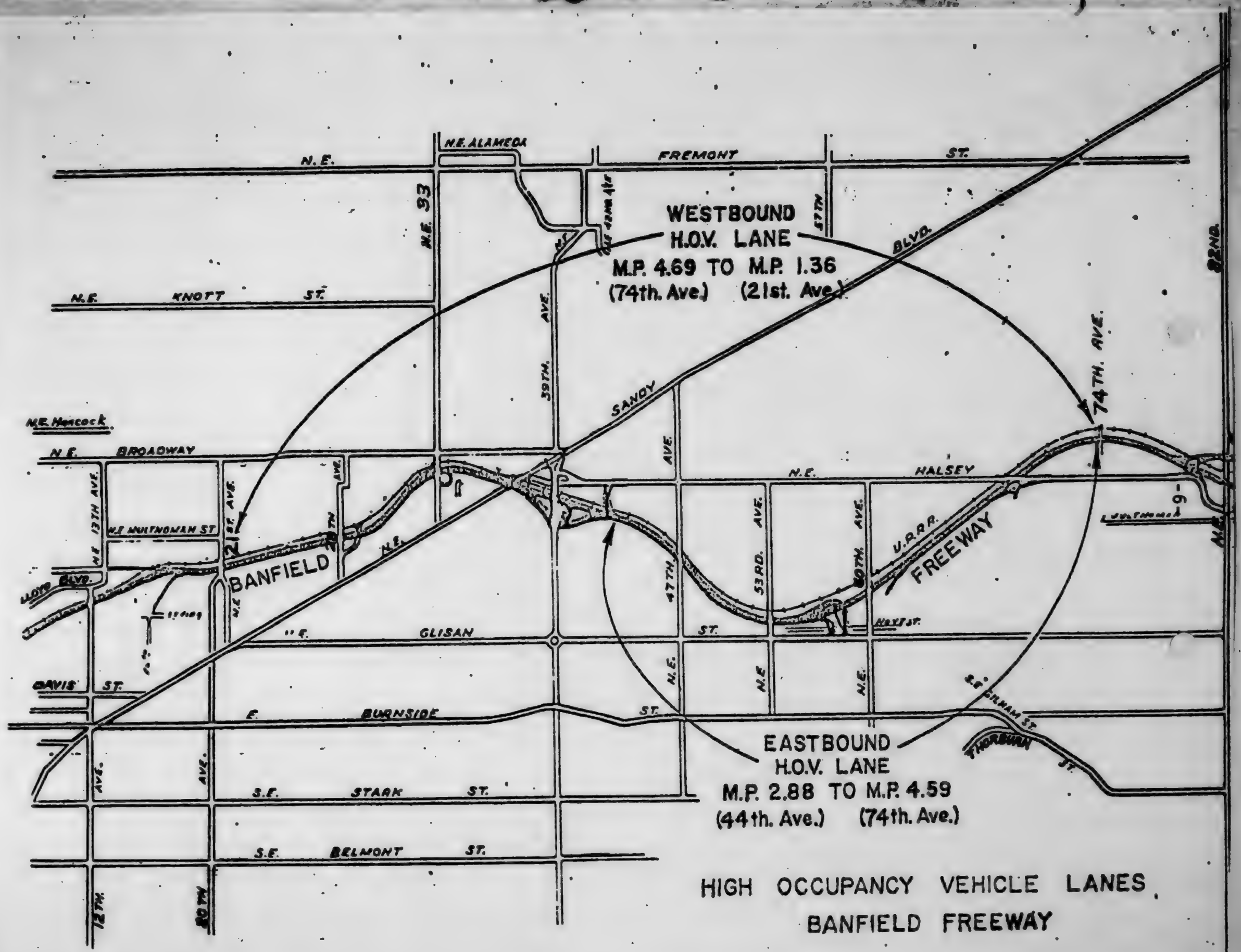
6. Because of the narrow median strip at the center of the freeway, a great deal of criticism was directed at the Highway Division to do something about the headlight glare from on-coming vehicles at night. This problem was solved by installing headlight glare shield paddles.

7. The project design effectively decreased the length of the on-ramp acceleration lanes. Sideswipes and rear-end accidents occurred at these ramp entrances during the first several months of operation. The acceleration ramps were extended to cure the problem. Since that time, the number of accidents at the entrance ramps has been reduced to the same level as 1974.

8. Considerable adverse publicity was received at the opening of the H.O.V. Lanes because of the lack of vehicles using them during the off peak hours and on weekends. On March 28, 1976, a major revision was made in the hours of restricted use of the H.O.V. Lanes. These lanes were opened to all vehicles during non-peak hours. The Westbound H.O.V. Lane is restricted only between 6 and 10 A.M. and the Eastbound H.O.V. Lane is restricted only between 3 and 7 P.M. on week days. This revision quieted the criticism of the project.

9. On March 28, 1976, the speed limit of 45 MPH used during construction was raised back to the original 55 MPH speed limit.

10. It is interesting to note that a local County Circuit Court Judge, who has recently listened to several hundred H.O.V. Lane violation cases, indicated only one violator had pleaded not-guilty due to inadequate signing or notification.



HIGH OCCUPANCY VEHICLE LANES
BANFIELD FREEWAY

II. ON-GOING GRAPHS

In this area of the report, the on-going graphing of the collected data is presented.

The first eight graphs represent Task "A" or an analysis of traffic flow characteristics. These graphs consist of vehicle counts, occupancy counts, H.O.V. Lane violation counts, average vehicle speed and truck counts for the Banfield Freeway and adjacent arterials. Also included is the occupancy rate for the Sunset Freeway, which is Portland's other East-West route into the city center. It is included to give the reader a comparison between the Banfield and Sunset Freeways. A graph reflecting changing gasolines prices in the area is also included. I believe it is still too early to construct any possible trends from reviewing the individual graphs. However, Task "A"- Graph No. 5, Change in Peak Hour H.O.V. Lane Violations does appear to be a function of the intensity of police enforcement to date.

The next three graphs represent Task "B" or an analysis of transit and carpool use. Changes in bus patronage, carpool usage and parking rates are presented in graph form. As a positive trend, bus patronage has increased 125 percent, but has leveled off during the summer months.

The final three graphs represent Task "C" or an analysis of Accident Statistics on the Freeway. Changes in accident rates per month and average number of vehicles involved per accident are presented in graph form. The large number of accidents shown on the graphs for the latter part of 1975 and during the month of April can be contributed to by construction work occurring on the

Freeway during those times. It appears the number of accidents has leveled off to an acceptable value.

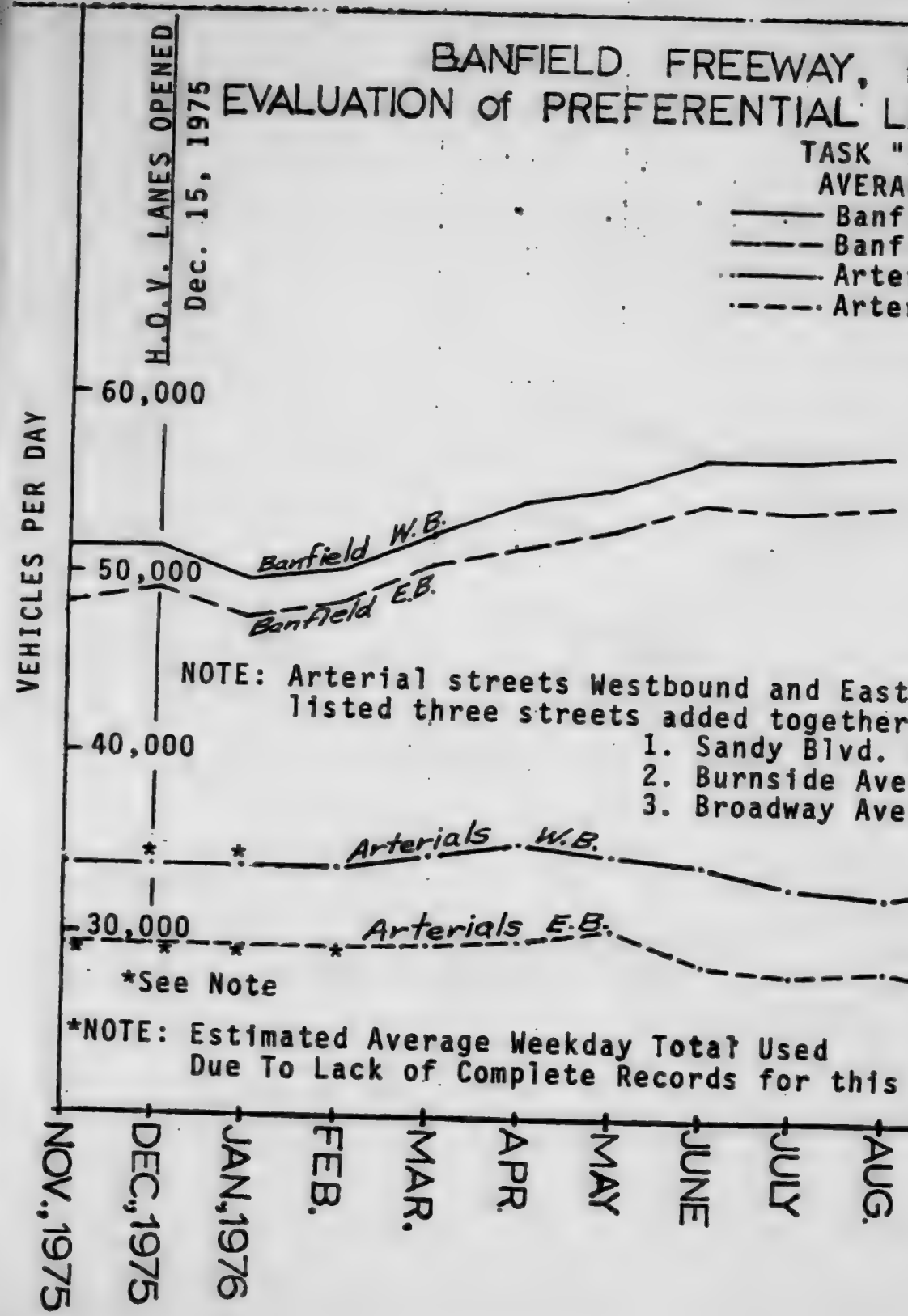
No graphs for Task "D" (Air Quality Analysis) is included in this report for the reasons described in Section III.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 1

AVERAGE DAILY TOTALS

——— Banfield Westbound A.D.T.
– – – Banfield Eastbound A.D.T.
·——· Arterial Westbound A.D.T.
·– – –· Arterial Eastbound A.D.T.



NOTE: Arterial streets Westbound and Eastbound are the directional totals for the following listed three streets added together for relative comparison:

1. Sandy Blvd. at 20th.
2. Burnside Ave. at 21st.
3. Broadway Ave. at 21st.

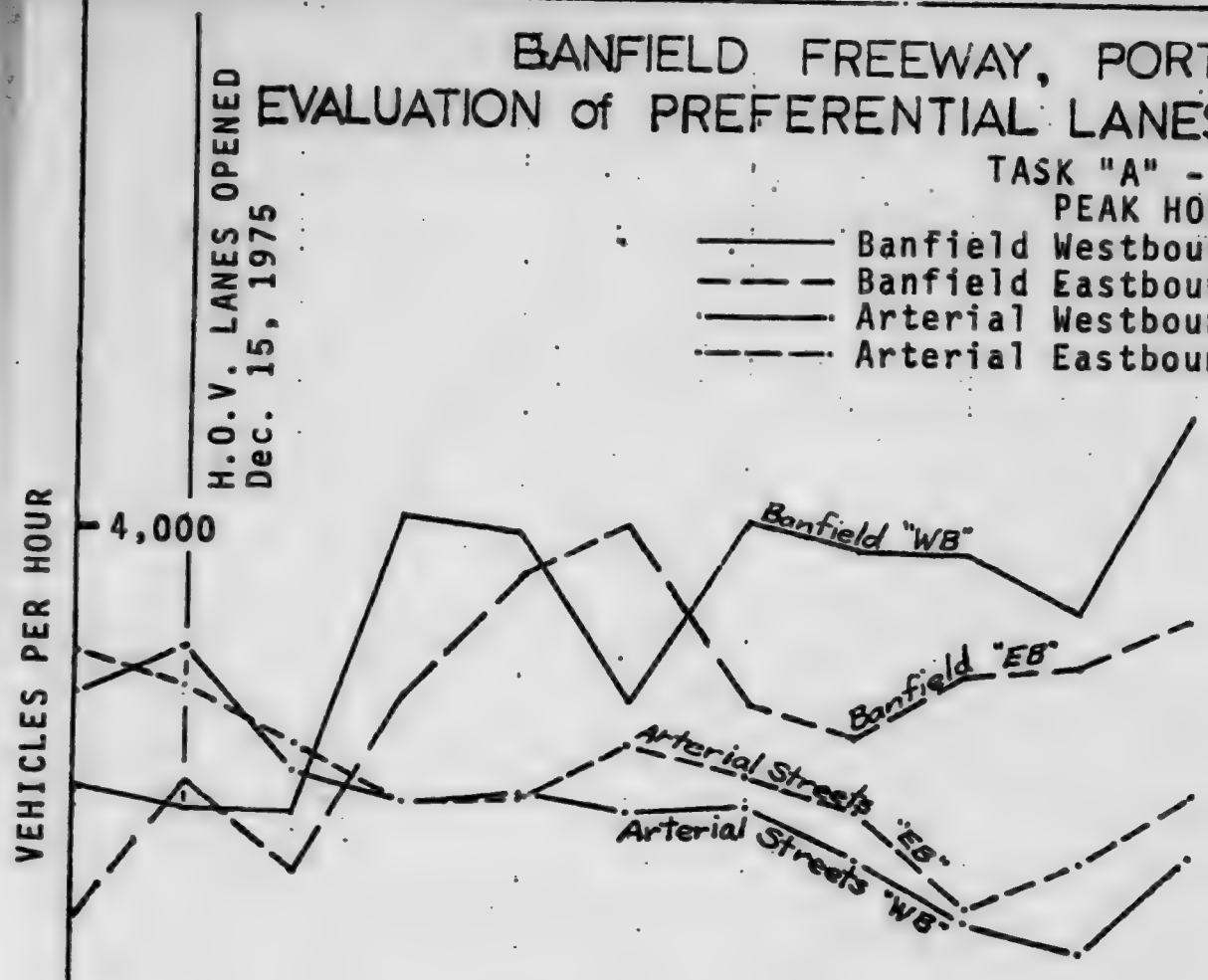
*NOTE: Estimated Average Weekday Total Used Due To Lack of Complete Records for this Period.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 2

PEAK HOUR VOLUMES

——— Banfield Westbound 7:00 AM to 8:00 AM
– – – Banfield Eastbound 4:30 PM to 5:30 PM
——— Arterial Westbound 7:00 AM to 8:00 AM (see note)
– – – Arterial Eastbound 4:30 PM to 5:30 PM (see note)



NOTE: Arterial streets Westbound and Eastbound are the directional totals for the following listed three streets added together for relative comparison:

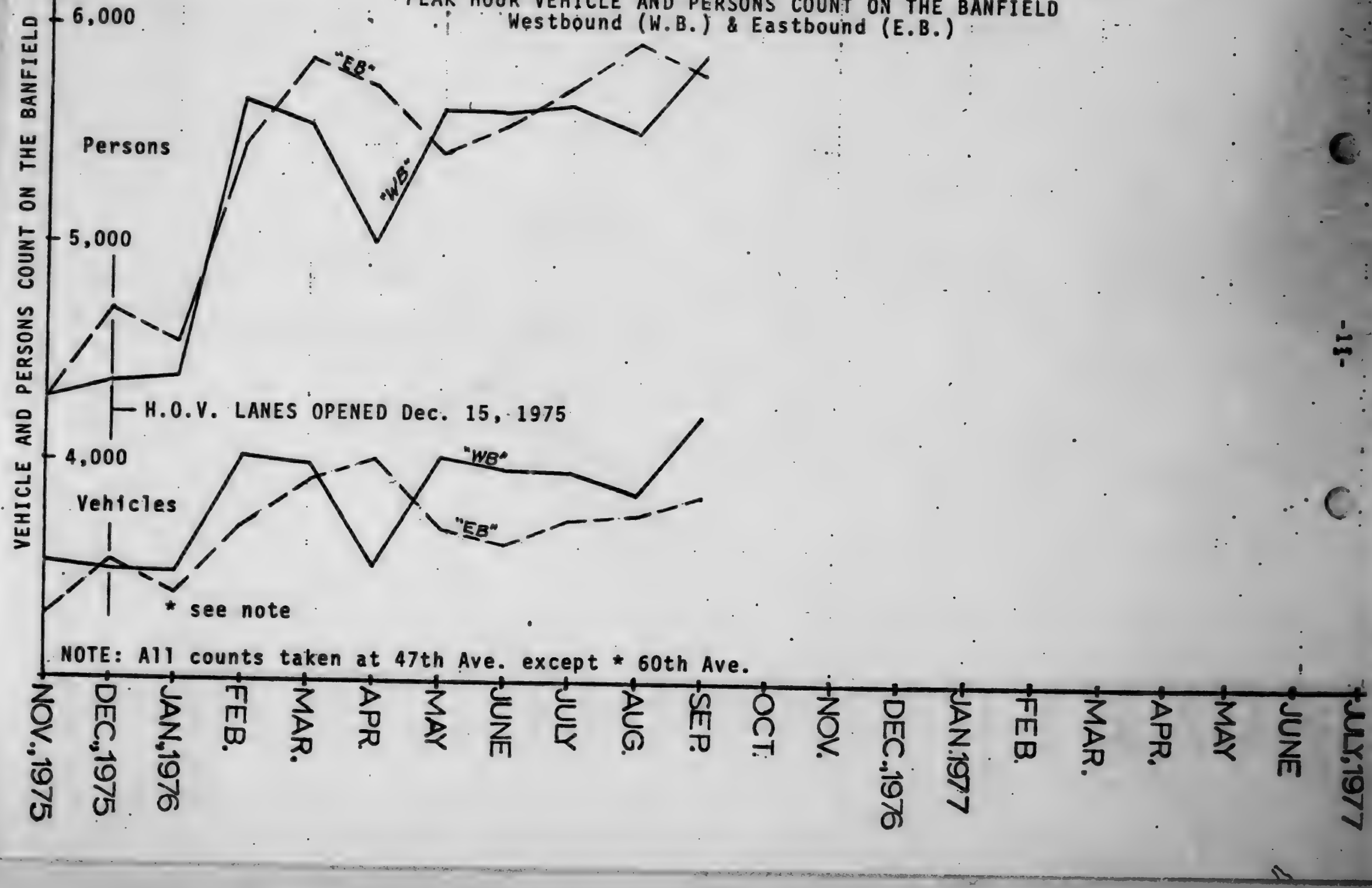
1. Sandy Blvd. at 20th.
2. Burnside Ave. at 21th.
3. Broadway Ave. at 21th.

NOV.,1975 DEC.,1975 JAN.,1976 FEB. MAR. APR. MAY JUNE JULY AUG. SEP. OCT. NOV. DEC.,1976 JAN.1977 FEB. MAR. APR. MAY JUNE JULY,1977

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 3

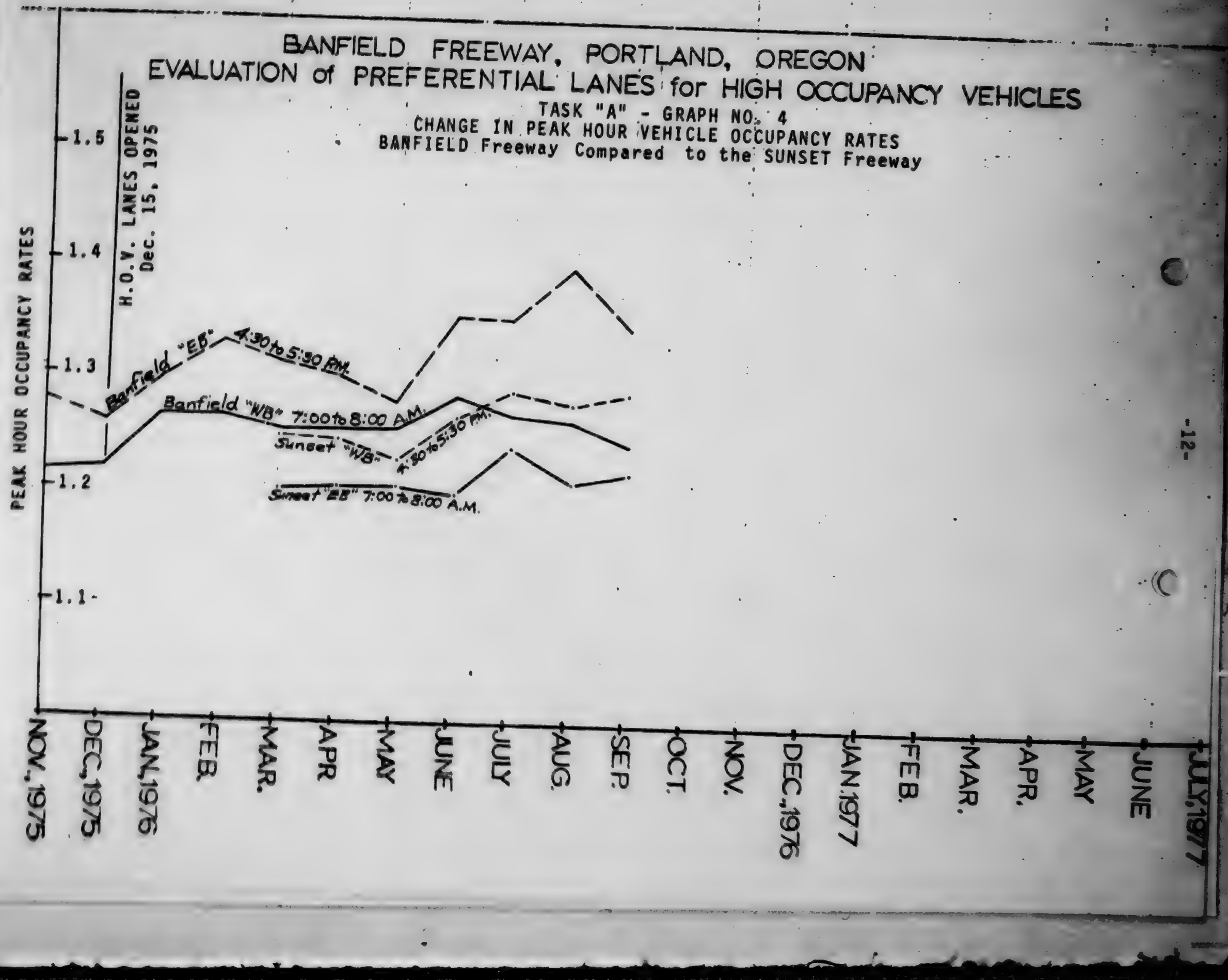
PEAK HOUR VEHICLE AND PERSONS COUNT ON THE BANFIELD
Westbound (W.B.) & Eastbound (E.B.)



NOTE: All counts taken at 47th Ave. except * 60th Ave.

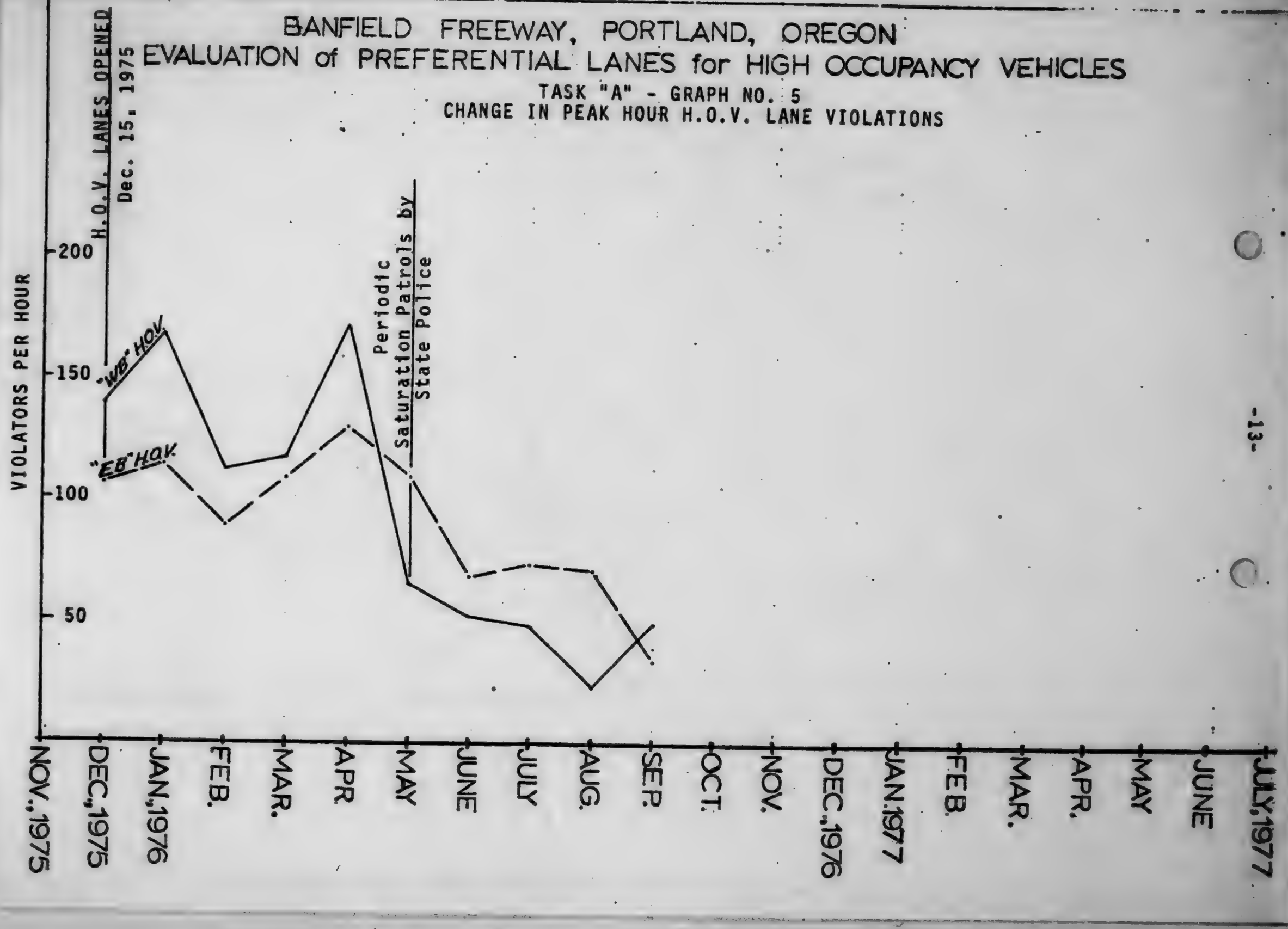
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 4
CHANGE IN PEAK HOUR VEHICLE OCCUPANCY RATES
BANFIELD Freeway Compared to the SUNSET Freeway



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

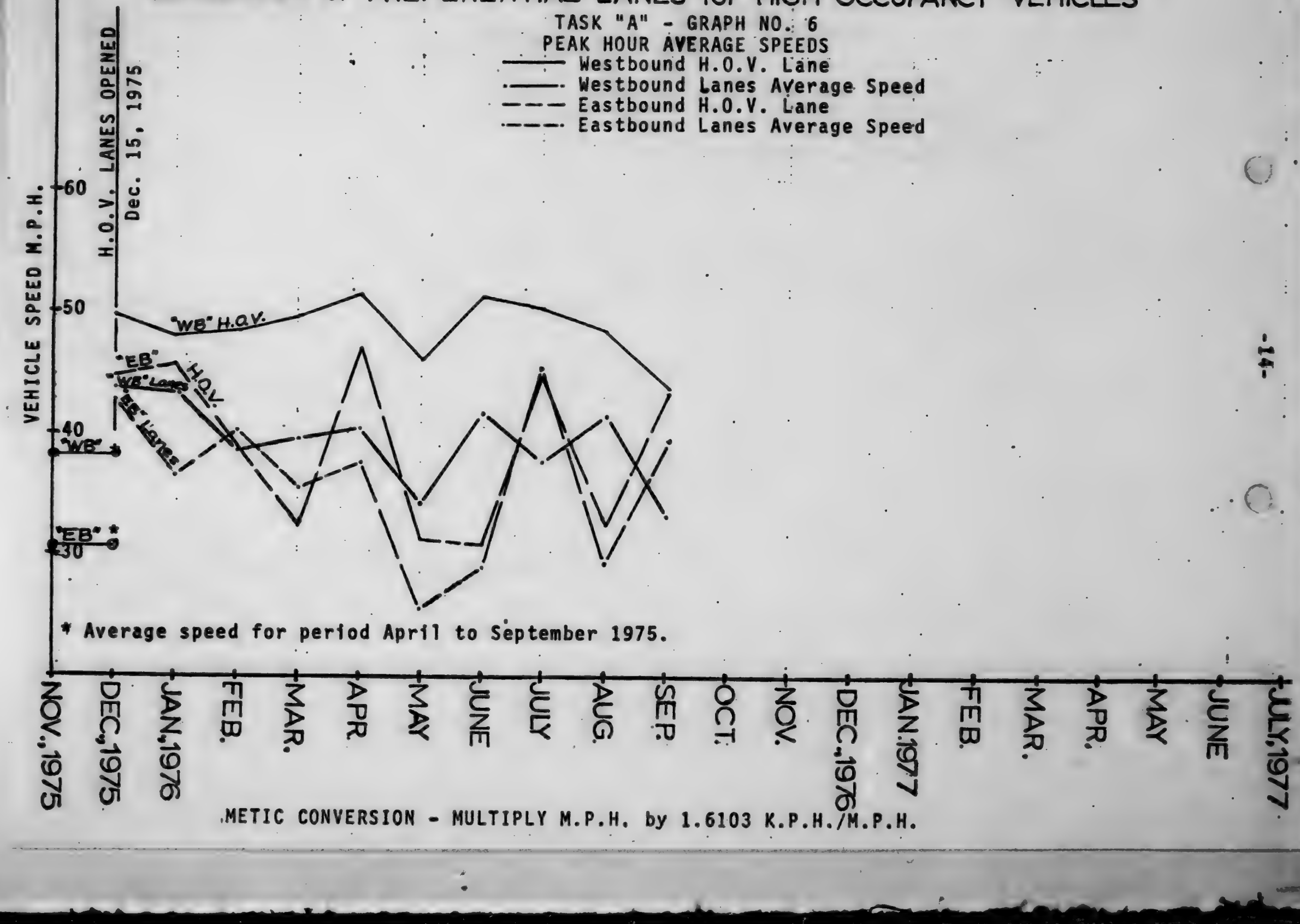
TASK "A" - GRAPH NO. 5
CHANGE IN PEAK HOUR H.O.V. LANE VIOLATIONS



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO. 6
PEAK HOUR AVERAGE SPEEDS

——— Westbound H.O.V. Lane
—·—· Westbound Lanes Average Speed
– – – Eastbound H.O.V. Lane
—·—· Eastbound Lanes Average Speed



* Average speed for period April to September 1975.

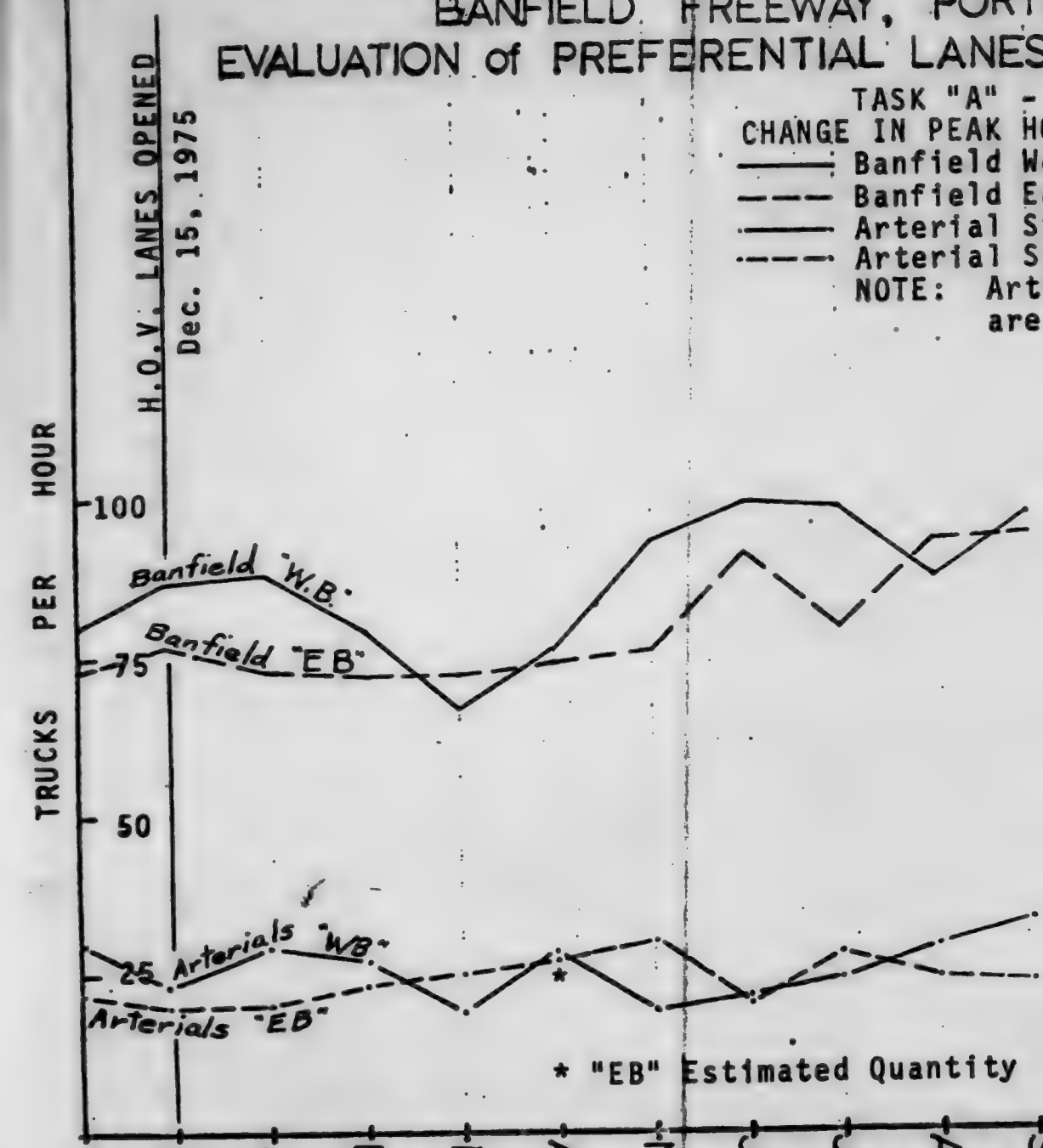
METIC CONVERSION - MULTIPLY M.P.H. by 1.6103 K.P.H./M.P.H.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "A" - GRAPH NO 7
CHANGE IN PEAK HOUR TRUCK VOLUMES

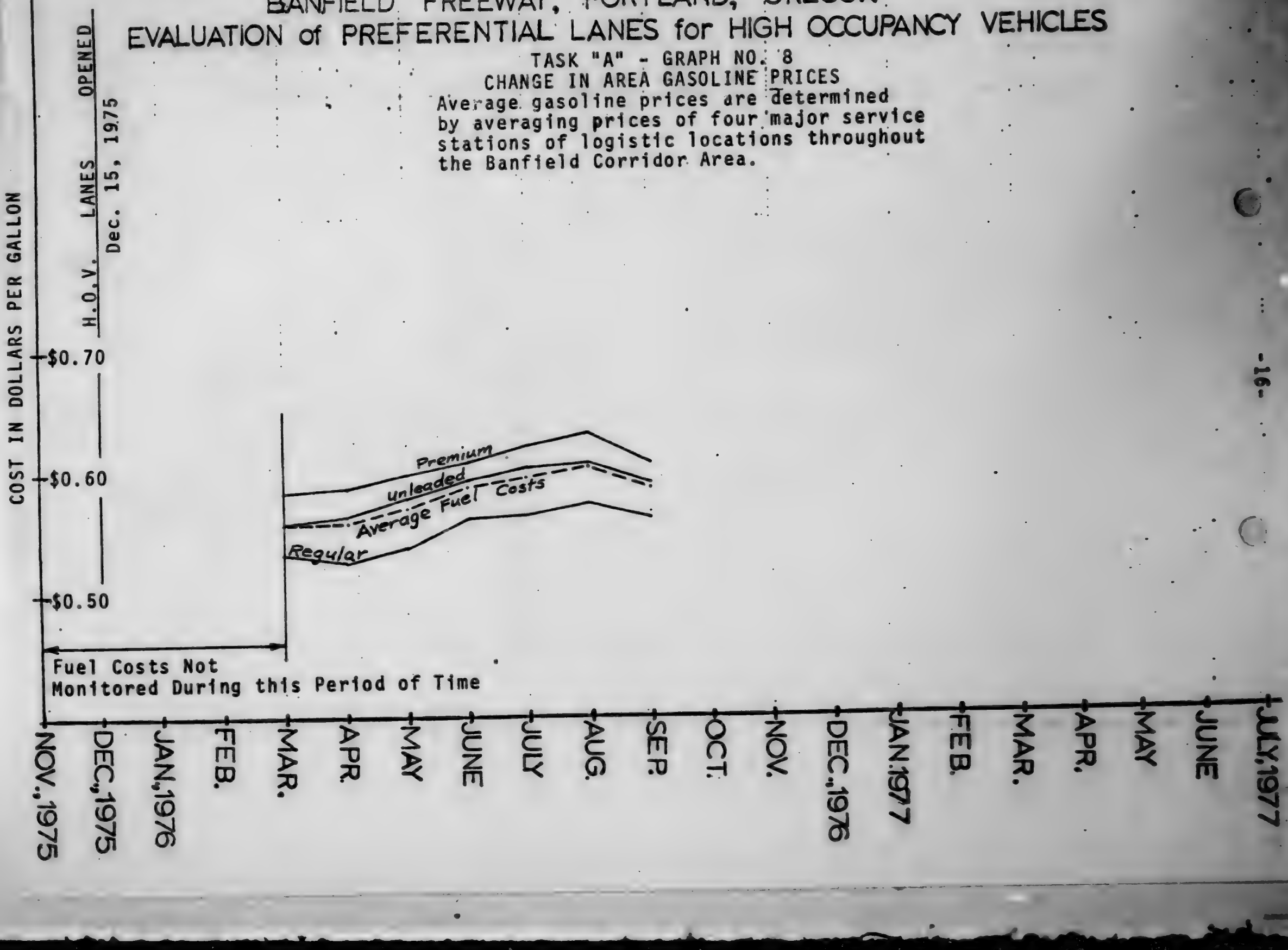
——— Banfield Westbound
– – – Banfield Eastbound
——— Arterial Streets Westbound (see note)
·—·—· Arterial Streets Eastbound (see note)

NOTE: Arterial streets used for comparison are Burnside Ave. and Sandy Blvd.

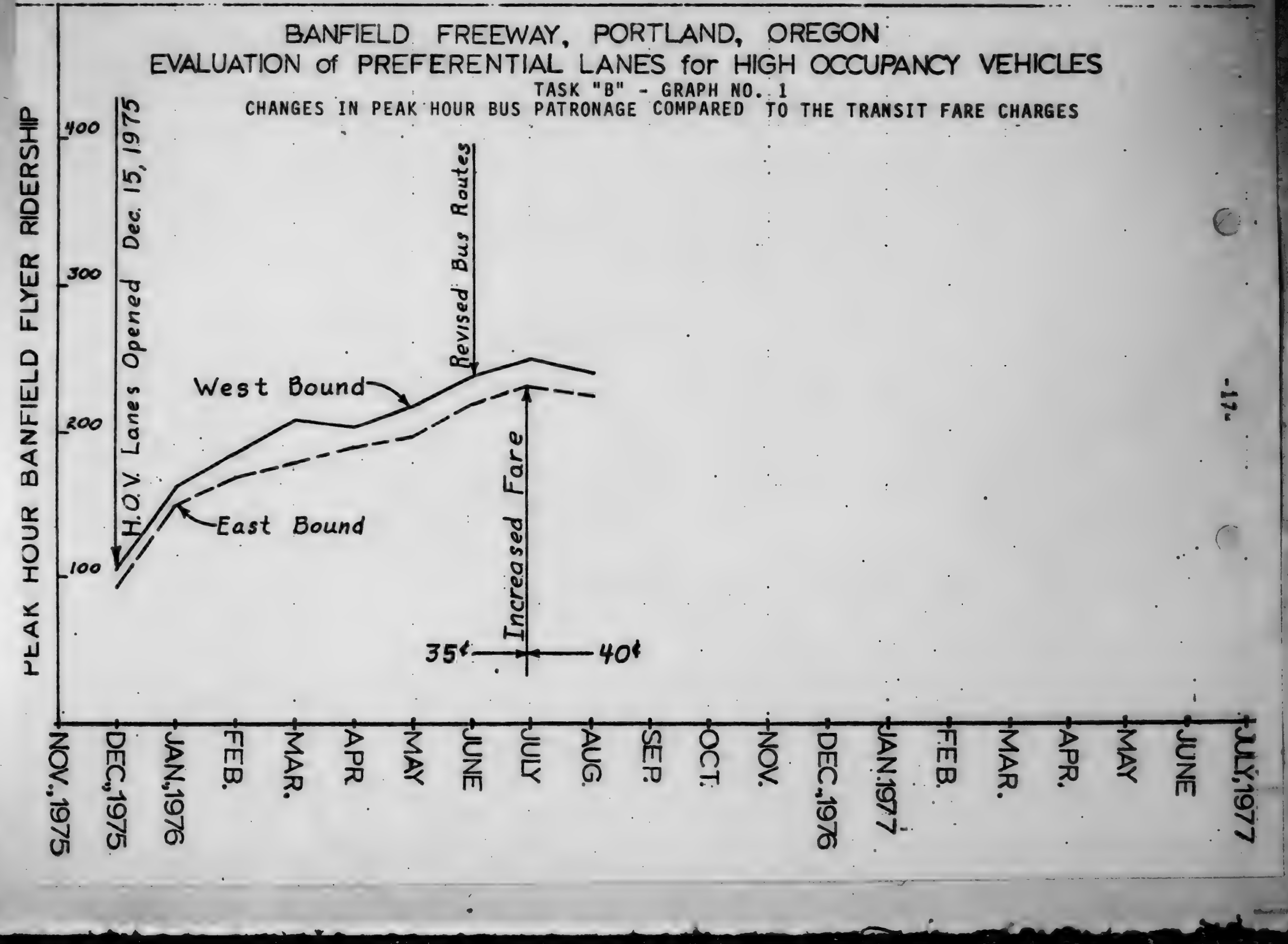


BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

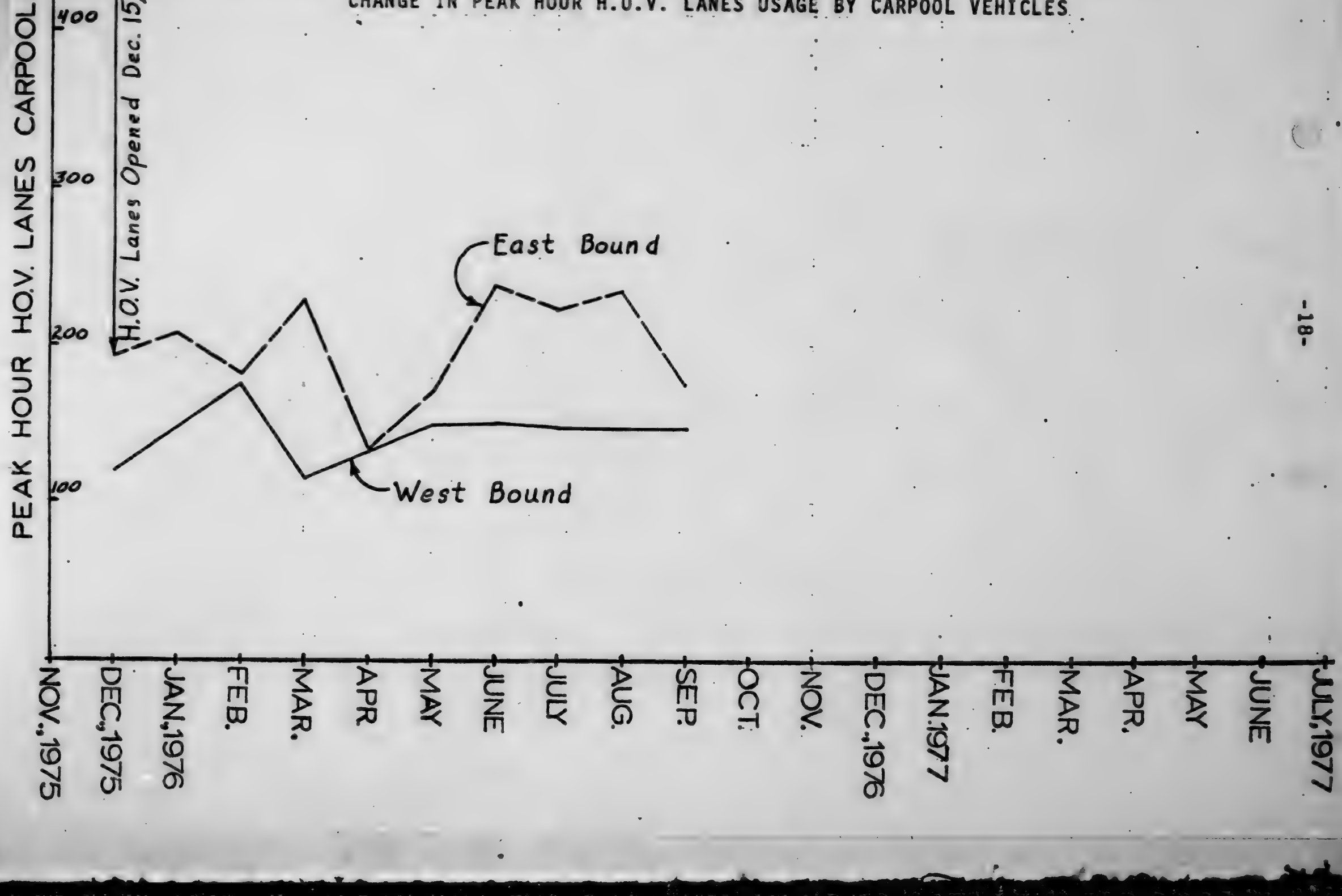
TASK "A" - GRAPH NO. 8
CHANGE IN AREA GASOLINE PRICES
Average gasoline prices are determined by averaging prices of four major service stations of logistic locations throughout the Banfield Corridor Area.



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
TASK "B" - GRAPH NO. 1
CHANGES IN PEAK HOUR BUS PATRONAGE COMPARED TO THE TRANSIT FARE CHARGES

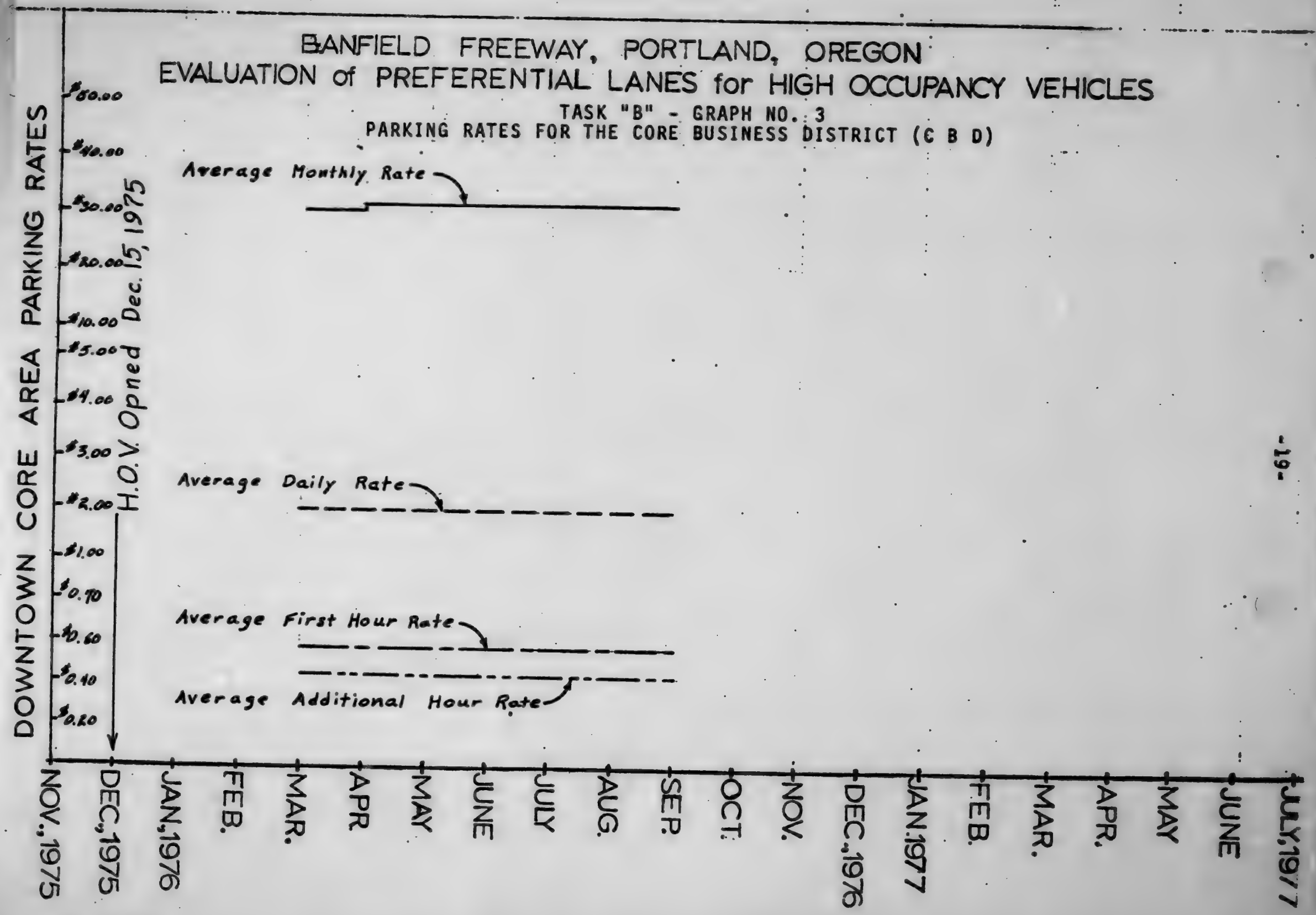


BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
TASK "B" - GRAPH NO. 2
CHANGE IN PEAK HOUR H.O.V. LANES USAGE BY CARPOOL VEHICLES



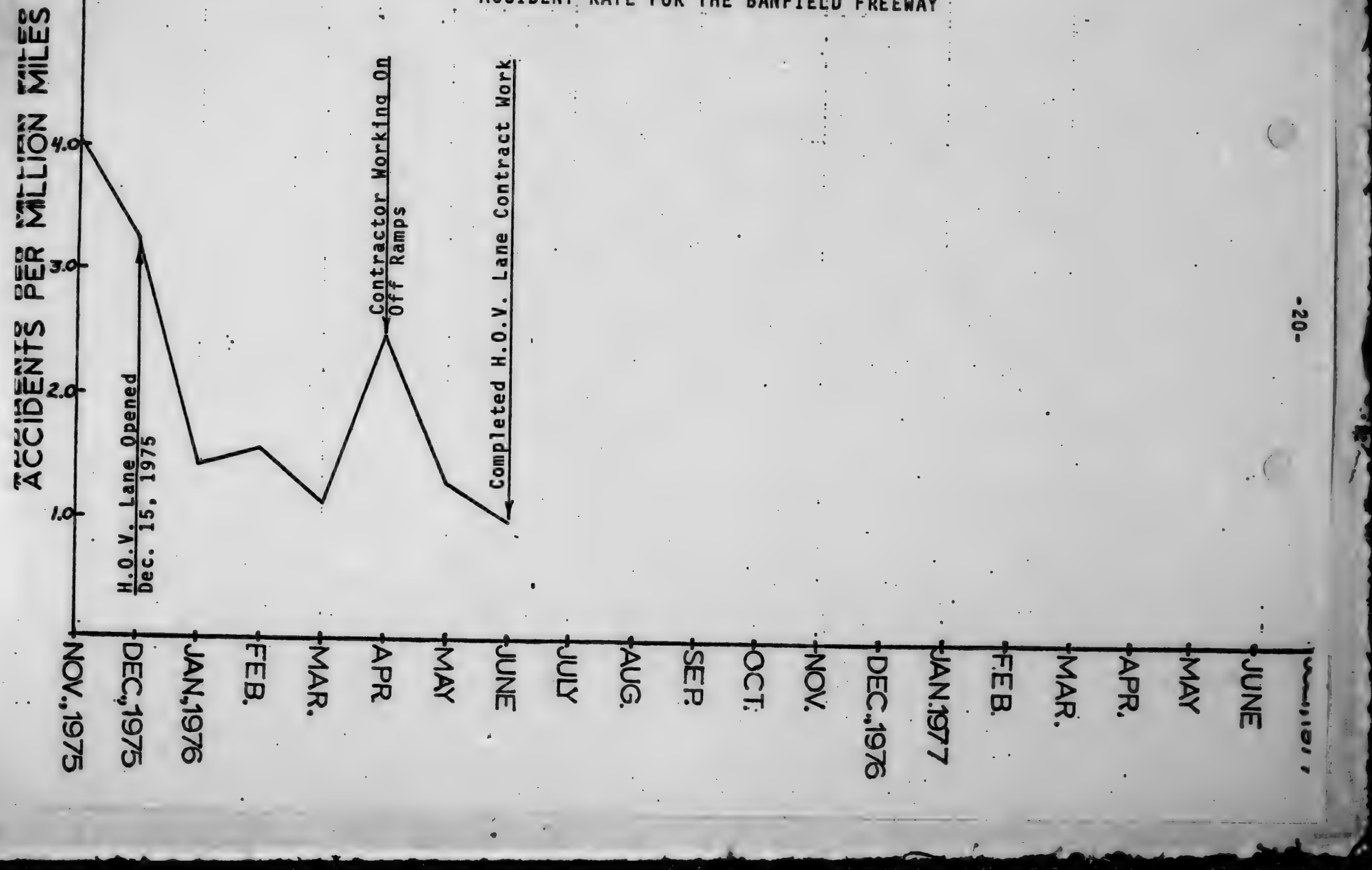
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "B" - GRAPH NO. 3
PARKING RATES FOR THE CORE BUSINESS DISTRICT (C B D)



BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "C" - GRAPH NO. 1
ACCIDENT RATE FOR THE BANFIELD FREEWAY



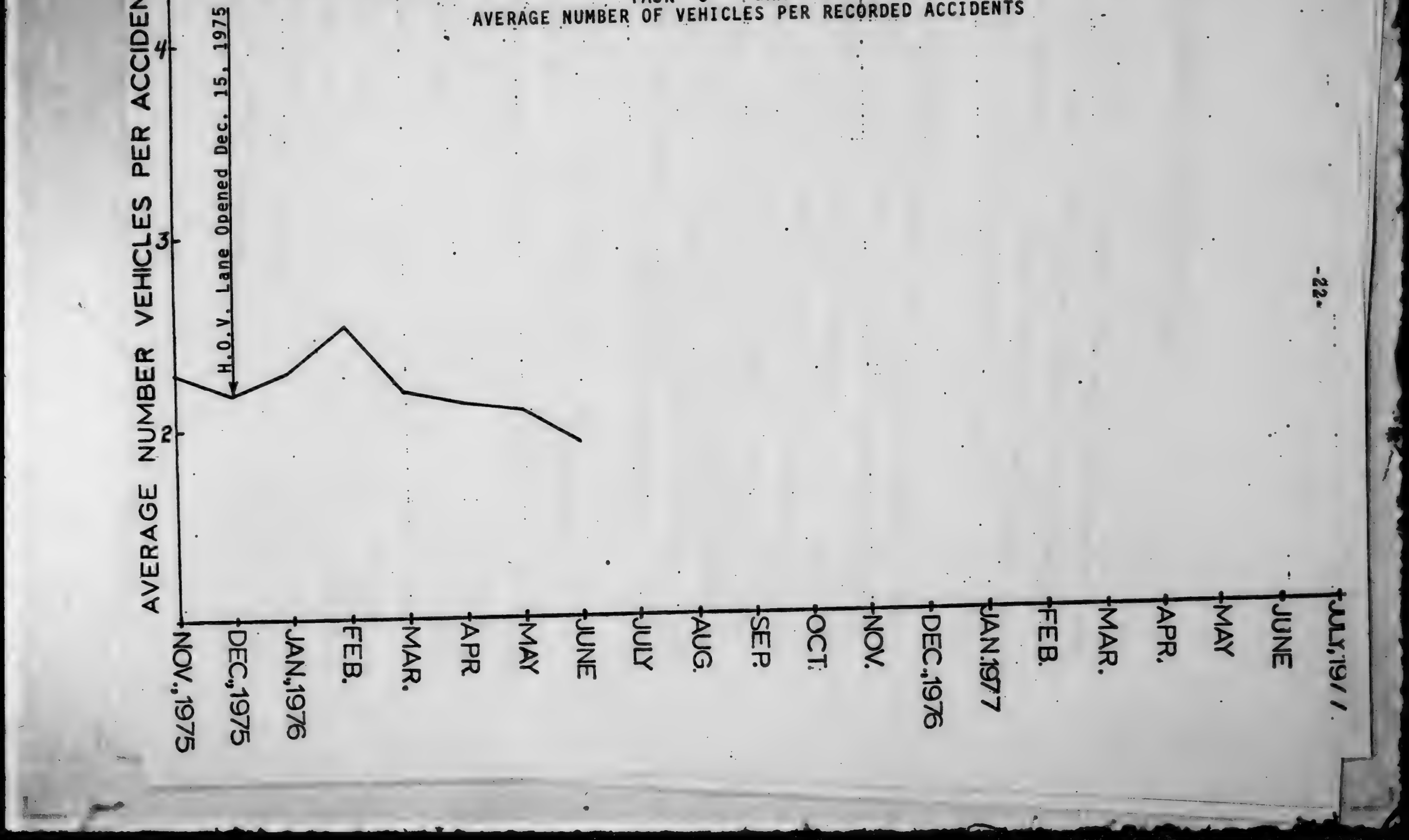
BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "C" - GRAPH NO. 2
RECORDED ACCIDENTS PER MONTH

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES

TASK "C" - GRAPH NO. 3

AVERAGE NUMBER OF VEHICLES PER RECORDED ACCIDENTS



III. SUMMARY OF EFFORT AND EXPENDITURES

This section gives a brief summary of the Federal Grant Award and a table listing the level of effort expended to date by the Professional Staff on monitoring activities. A bar chart showing the expenditures that have been incurred to date monitoring this project is included.

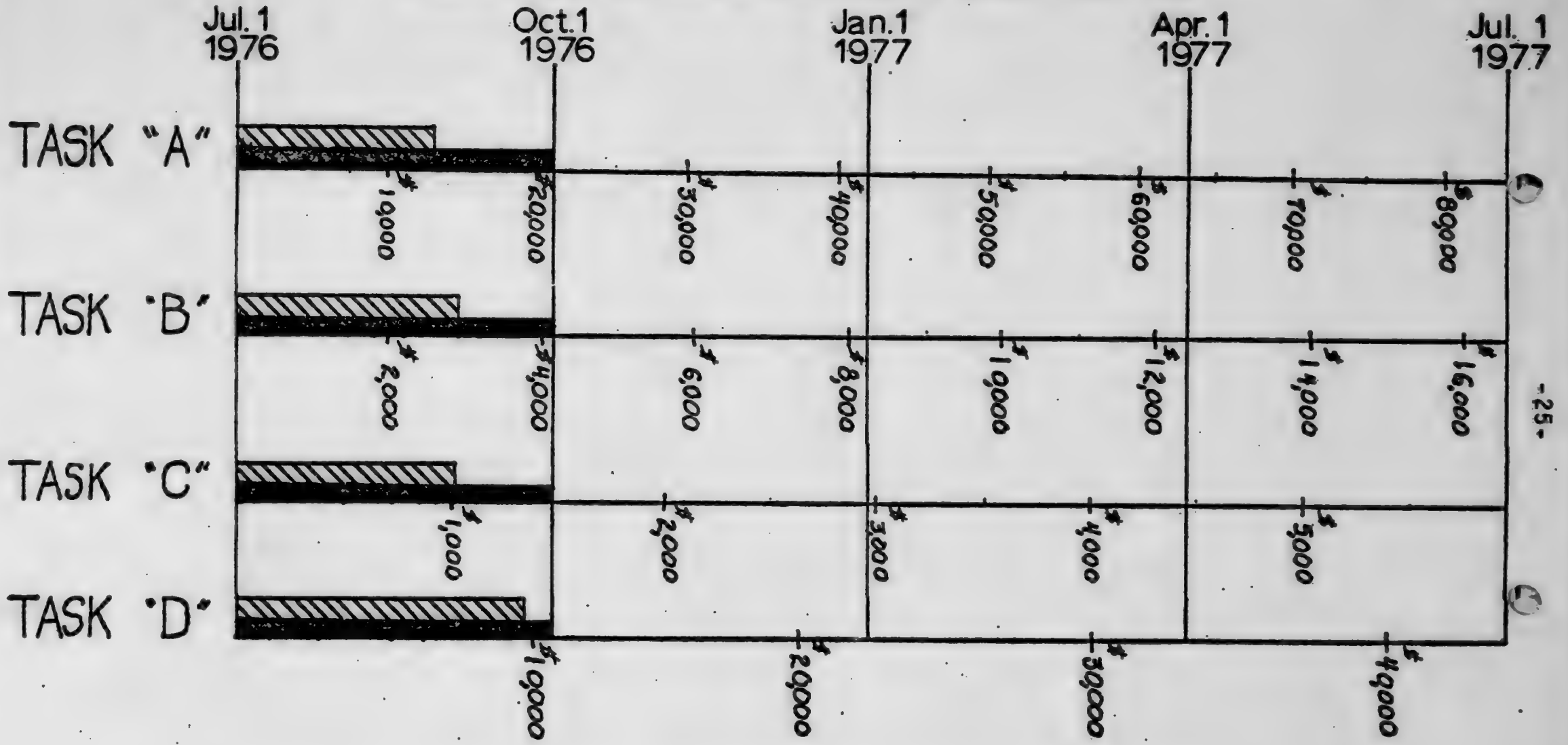
An extensive on-going monitoring program commenced in November of 1975 prior to the opening of the H.O.V. Lanes. The purpose of the monitoring program was to measure the effect of implementing exclusive bus and H.O.V. Lanes on an established freeway. Some of the items monitored on a monthly basis are traffic volume changes, travel speeds, occupancy rates, H.O.V. Lane violation rates, accidents and bus ridership. Refer to Section II of this report which includes the on-going graphing of these activities. Also being monitored is ambient air quality in the Banfield Corridor.

Considerable effort by the Professional Staff took place before the July 1, 1976 Grant award date. Most of this effort took place planning for, acquiring, installing and monitoring ambient air surveillance equipment. Most of this began in November of 1975. The first six months of 1976 have been a training period for the use of the various ambient air sampling equipment. The six carbon monoxide sequential bag samplers have been particularly troublesome. Problems have occurred with leaking plastic storage bags and the quality of the sample gases used to calibrate the CO Analyzer. These problems have been resolved and when the units begin sampling air in October, meaningful data should be forthcoming. The continuous chemiluminescent nitrogen oxide analyzer which

is housed in an environmentally controlled trailer went on-line in August of 1976. It is going through a thorough test period now.

Bar Chart No. 1, indicates the percent of expenditures incurred to date performing Tasks A, B, C and D. This chart shows only the amount of expenditures which have occurred after the July 1, 1976 Grant award date.

BANFIELD FREEWAY, PORTLAND, OREGON
EVALUATION of PREFERENTIAL LANES for HIGH OCCUPANCY VEHICLES
COMPARISON OF ESTIMATED COST/TIME TO ACTUAL COST/TIME



= Monetary Expenditures To Elapsed Time

= Elapsed Time

= Estimated Costs Proportional To Total Grant Time

BAR CHART NO. 1

BANFIELD FREEWAY, PORTLAND, OREGON

EVALUATION of PREFERENTIAL LANES for HIGH-OCCUPANCY VEHICLES

LEVEL OF EFFORT EXPENDED TO DATE BY PROFESSIONAL STAFF

TABLE NO. 1

NAME	TASK "A"	TASK "B"	TASK "C"	TASK "D"	TOTAL
MAX KLOTZ					
Prior to July 1, 1976	0.35	0.10	0.20	0.35	1.00
July 1, 1976 to Oct. 1, 1976	0.08	0.03	0.06	0.08	0.25
JERRY STREET					
Prior to July 1, 1976	0.15	0.15	0.07	0.13	0.50
July 1, 1976 to Oct. 1, 1976	0.52	0.53	0.26	0.44	1.75
BILL McCONNEL					
Prior to July 1, 1976	6.30	1.35	0.45	0.90	9.00
July 1, 1976 to Oct. 1, 1976	2.10	0.45	0.15	0.30	3.00
JEF KAISER					
Prior to July 1, 1976	0.60	0.15	0.00	2.25	3.00
July 1, 1976 to Oct. 1, 1976	0.08	0.02	0.02	0.13	0.25

NOTE: All time is in Man-Months.
Does not include Technicians time.

IV. SUMMARY OF PROJECT RESULTS TO DATE

After eight months of operation the Banfield H.O.V. Lane project is successful in several goals.

Traffic volume in the Banfield during August was up 4 percent over August, 1975, representing an additional 3400 vehicles per day. At the same time, the vehicles on the parallel arterial streets were down 10 percent--400 vehicles per day. The easier flow of traffic on the Banfield is attracting additional vehicles from arterial streets to the Banfield. The Banfield is absorbing additional growth in vehicles from east county.

Speeds inbound during the peak hour in August averaged 42 MPH in the normal travel lanes, the same average speed as 1975. The speed in the H.O.V. Lane was 49 MPH. In the p.m. outbound peak hour, the average speed in August was 29 MPH, up 4 MPH from the average speed of 25 MPH in 1975. The speed in the H.O.V. Lane was 33 MPH. Auto speeds in the regular lanes are equal or better than prior to the project.

During August the H.O.V. Lanes carried 1100 persons in 274 autos and 10 buses during the peak hours. This represents 274 less cars in the auto lanes, an additional 10 buses operating in the corridor, and more important--the removal of 1100 people traveling in 900 autos with an occupancy rate of 1.2 in the normal travel lanes. With 1100 persons using the H.O.V. Lane, 20 percent of the persons using the freeway are in the H.O.V. Lane, in 4 percent of the vehicles.

The success in attracting carpool riders and bus riders has been slow and gradual

since the initiation of the project. The potential has not been reached but does exist for carrying a tremendous increase in traffic in the corridor. The potential no way exists without the preferential treatment.

The accident rate is below the August, 1975, rate. Rates did increase substantially with the initial opening of the project, but corrective measures on several ramps have corrected the problem areas.

The violation rate increased to 48 percent in April. With additional enforcement in May, June and July, the rate was reduced. Enforcement was reduced during the month of August, with the violation rate at 16 percent, an acceptable level.

In summary, after eight months the H.O.V. Lanes are continuing to attract ridership from carpools and buses. Travel speeds for occupants in the normal lanes are higher. The accident rate is normal. The project is providing both an alternative to the auto and an incentive to carpool and bus without negative impact upon the single-car occupant. The results are positive.

V. WORK PLANNED FOR SUBSEQUENT PERIOD

The following items of work will be performed during the next quarter:

1. Continue the collection of data for the on-going graphing of TASKS A, B, and C as presented in Section II of this report. In addition, data for TASK D (Air Quality Analysis) should be available for graphing.

2. Compile a procedure manual, outlining the procedures used by our technicians in monitoring each function of the indiviual tasks.

3. Conduct an annual commuter survey and compile it into a report. This report will include the results of a questionnaire survey taken of motorists and bus users of the Banfield Corridor during November of 1976. From this data, it is hoped that we can learn something about the users' attitudes towards the High-Occupancy Vehicle restricted Lane concept.

8259

HIGHWAY DIVISION

OREGON DEPARTMENT OF TRANSPORTATION
SALEM, 97310

FOR ADDITIONAL INFORMATION CALL: John J. Earley
SALEM 378-6546

October 14, 1976

76-199-S
FOR IMMEDIATE RELEASE

Operational hours of the high occupancy vehicle lanes (HOV) on the Banfield Freeway in Portland were reduced one hour for both east and westbound lanes by the Oregon Transportation Commission today.

Westbound lanes will be operational from 6:30 to 9:30 a.m. and the eastbound lanes from 3:30 to 6:30 p.m., Monday through Friday.

The commission has been seeking ways to get better use out of the freeway facility which is heavily traveled, particularly during peak hours. They were informed by Highway Division engineers that the one-hour change in operational hours would not seriously affect the HOV lanes.

# # # #

8259

WILLIAM H. MORRISON
JACK H. DUNN
JAMES G. SMITH
NATHAN L. COHEN
F. BROCK MILLER
ROBERT R. CARNEY
THOMAS E. COONEY
RICHARD A. VAN HOOMISSEN
THOMAS S. MOORE
BOYD J. LONG
ROBERT L. ALLEN
THOMAS H. TONGUE
GEORGE J. COOPER, III
CHARLES D. RUTTAN
ROBERT K. WINGER
MICHAEL D. CRUW
G. KENNETH SHIROISHI
GILBERT E. PARKER, JR.

MORRISON, DUNN, COHEN, MILLER & CARNEY
ATTORNEYS AT LAW
17TH FLOOR STANDARD PLAZA
PORTLAND, OREGON 97204
TELEPHONE (503) 224-6440

RALPH R. BAILEY (1902-1974)

September 28, 1976

Secretary of State
State of Oregon
Salem, OR 97310

C. W. Head
Commission Service
Department of Transportation
Highway Building
Salem, OR 97310

RE: Oregon State Project No. 8259

Gentlemen:

This office represents Laneguard, Inc., and has been made aware of the fact that ASKA Structures has filed claims concerning Oregon State Project No. 8259. We do want to advise on behalf of Laneguard that the claim is disputed.

Very truly yours,

Thomas S. Moore

Thomas S. Moore

TSM:al
cc: Paul Rask
St. Paul Fire & Marine Co.
K. F. Jacobson Co.
Safety Guard Rails, Inc.
Laneguard, Inc.

NOTED
C. W. HEAD

RECEIVED
SEP 29 1976
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

#8259

L.

DIRECTOR'S FILE
Banfield Br

OREGON STATE HIGHWAY DIVISION

METROPOLITAN SECTION • 5821 N.E. GLISAN • PORTLAND, OREGON 97213

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator and
State Highway Engineer

Telephone 238-8226

October 4, 1976

GLENN L. JACKSON, Chairman
Oregon Transportation Commission
920 Southwest Sixth Avenue
Portland, OR 97204

Subject: Banfield Freeway High-Occupancy-Vehicle Lane Demonstration Project

At the September 28 meeting of the Transportation Commission, I was asked to have the operational alternatives of the Banfield project re-evaluated by the project advisory committee.

I have called a special meeting of the committee for October 11, expressly to ask them to reconsider the major alternatives: (1) the hours of use-restriction of the high-occupancy-vehicle lane, (2) the number of occupants required to make a carpool, and (3) taxi use of the HOV lane during the restricted hours, regardless of the number of passengers.

Special traffic counts and speed runs were made on September 30, and the results sent to the members of the Commission and the advisory committee. Copies of the graphs and letters to those members are attached. I would like to discuss these alternatives with you prior to the meeting of October 11, at your convenience.

ROBERT N. BOTHMAN
Ass't. State Highway Engineer

ebg

attachment

cc: R. A. Burco
F. B. Klaboe
H. S. Coulter

RECEIVED
OCT 5 1976
OFFICE
DIRECTOR ... TRANSPORTATION

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator and
State Highway Engineer

OREGON STATE HIGHWAY DIVISION

METROPOLITAN SECTION • 5821 N.E. GLISAN • PORTLAND, OREGON 97213

October 4, 1976

Telephone 238-8226

Oregon Transportation Commission

Subject: Banfield Freeway High-Occupancy-Vehicle Lane Demonstration Project

At the September 28 commission meeting, I was asked to have the operational alternatives re-evaluated by the project advisory committee. I understood the commission's concern was to obtain the best use of the facility.

A special meeting of the committee has been called for October 11, to discuss: (1) the hours of use-restriction of the high-occupancy-vehicle (HOV) lane, (2) the number of occupants required to make a carpool, and (3) taxis in the HOV lane during the restricted hours, regardless of the number of passengers.

Special traffic counts and traffic speed runs were made on September 30; this information has been produced in graph form and is attached. These graphs were also furnished to the committee.

ROBERT N. BOTHMAN
Ass't. State Highway Engineer

ebg

attachment

cc: R. A. Burco
F. B. Klaboe
H. S. Coulter
Cecil Head

ROBERT W. STRAUB
GOVERNOR

F. B. KLABOE
Administrator and
State Highway Engineer

OREGON STATE HIGHWAY DIVISION

METROPOLITAN SECTION • 5821 N.E. GLISAN • PORTLAND, OREGON 97213

Telephone 238-8226

October 4, 1976

TECHNICAL ADVISORY COMMITTEE
Banfield HOV Lane Project

On September 28, Mr. Bothman discussed the Banfield high-occupancy-vehicle lane demonstration project with the Oregon Transportation Commission.

The commission expressed their concern that the best use of the facility is being achieved. They asked the TAC to review the operational alternatives available. Specifically, the items to be reviewed are: (1) hours of HOV lane restriction, (2) number of occupants required to make a carpool, and (3) use of the restricted lane by taxis.

On Thursday, September 30, speed runs and fifteen-minute traffic counts were made, all day. This information has been plotted in graph form and is attached for your information and use in considering the alternatives.

Please be prepared to recommend a position on the above items, at a special TAC meeting, October 11, 2 p.m., at the Oregon State Highway Division's Metro office.

MAX J. KLOTZ
Project Development Engineer

ebg

attachment

cc: Members
Oregon Transportation Commission
R. A. Burco
F. B. Klaboe
H. S. Coulter

BANFIELD FREEWAY VEHICLE COU
SEPTEMBER 30, 1976
15 MIN. VOLUME

1" = 1 HOUR HOR.
1" = 200 VEHICLES VERT.

VEHICLE COUNT

400
600
800
1000
1200

BANFIELD FREEWAY VEHICLE COU
SEPTEMBER 30, 1976
15 MIN. VOLUME

200
400
600
800

6:00 AM
7:00
8:00
9:00
10:00
11:00
12:00
1:00
2:00
3:00

TIME OF DAY

BANFIELD FREEWAY VEHICLE COUNT WB

SEPTEMBER 30, 1976

15 MIN. VOLUME

HOV LANE RESTRICTED

HOUR HOR.

00 VEHICLES VERT.

BANFIELD FREEWAY VEHICLE COUNT EB

SEPTEMBER 30, 1976

15 MIN VOLUME

TIME OF DAY

6:00 7:00 8:00 9:00 10:00 11:00 12:00 1:00 2:00 3:00

HOV LANE RESTRICTED

TIME OF DAY

1400

1600

1800

2000

2200

2400

VEHICLE COUNT

BANFIELD FREEWAY VEHICLE COUNT
SEPTEMBER 30, 1976
15 MIN. VOLUME

1" - 1 HOUR HOR.
1" = 200 VEHICLES VERT.

11:00 12:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 P.M.

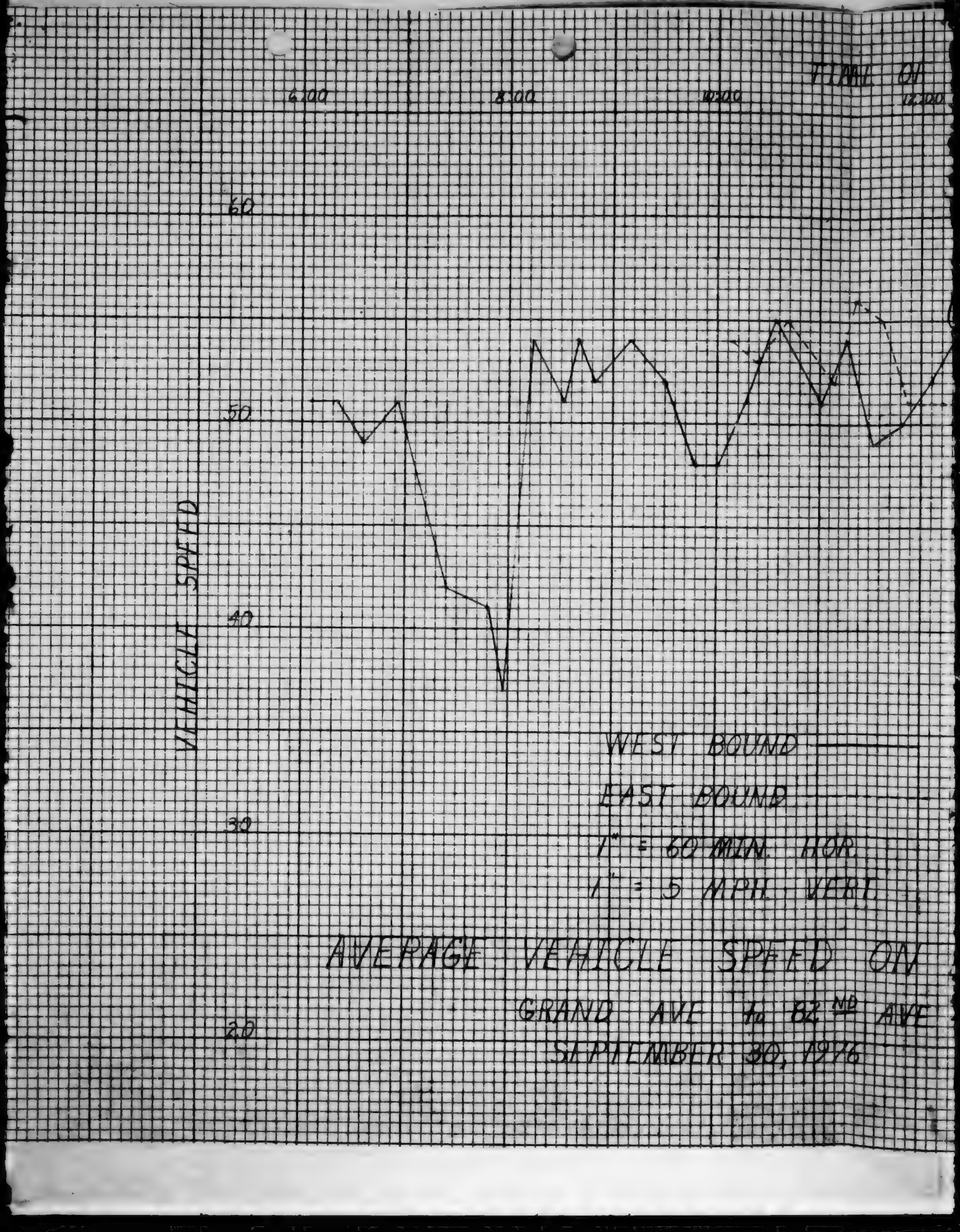
TIME OF DAY

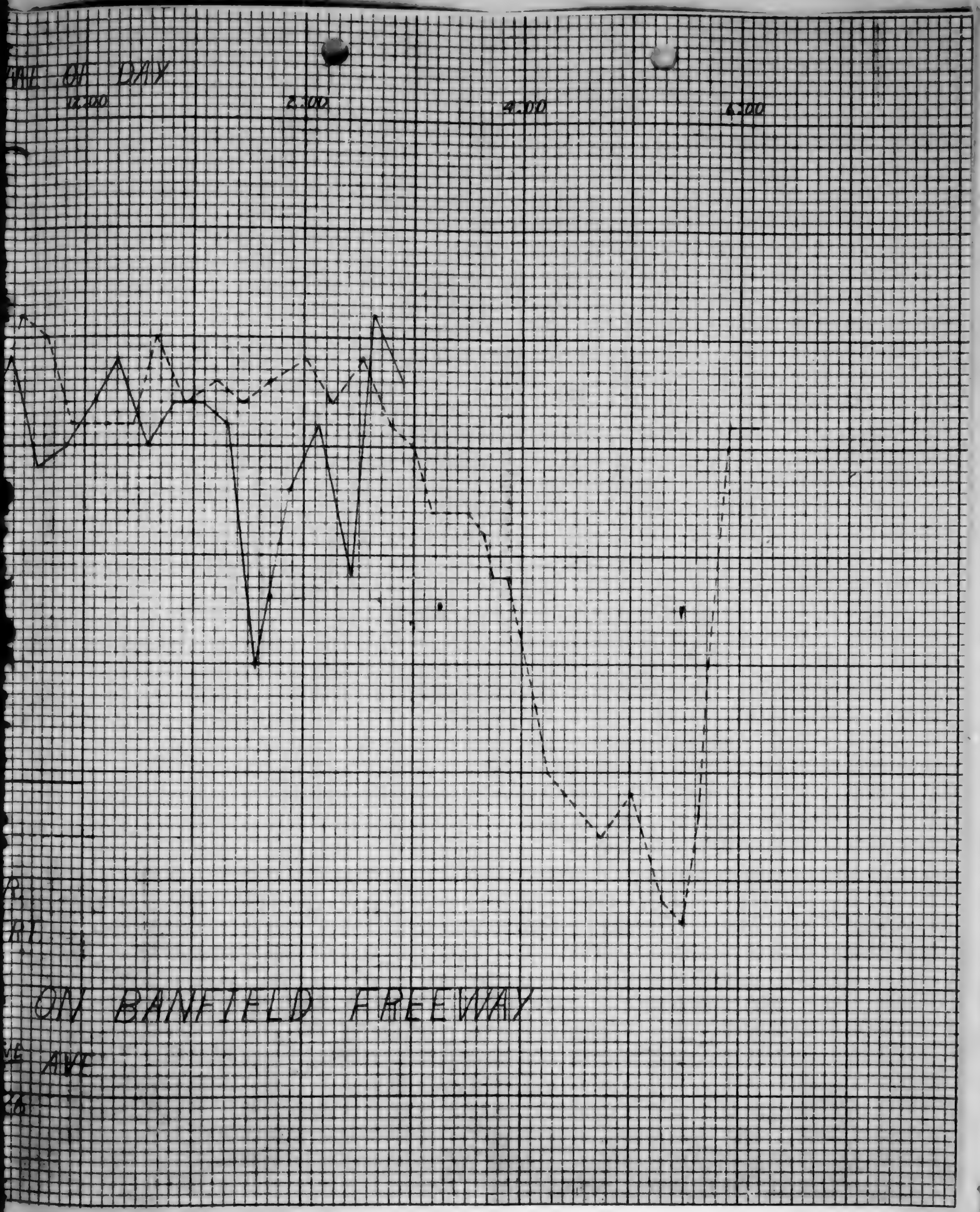
ANTWILD FREEWAY VEHICLE COUNT WB.

SEPTEMBER 30, 1976

15 MIN. VOLUME

HOV LANE RESTRICTED


6:00
8:00
10:00
TIME OF
12:00
60
50
40
30
20
VEHICLE SPEED
WEST BOUND
EAST BOUND
1" = 60 MIN. HOR.
1" = 5 MPH. VERT.
AVERAGE VEHICLE SPEED ON
GRAND AVE to 82nd AVE
SEPTEMBER 30, 1976


VOL OF DAY
12.00
2.00
4.00
6.00
ON BANFIELD FREEWAY

8259

bc Robert A. B o
F. B. Klaboe
E. S. Hunter
R. L. Schroeder
R. N. Bothman

1.3

September 24, 1976

Ms. Margaret Stoltenberg
1480 S.E. 9th Street
Gresham, OR 97030

Dear Ms. Stotenberg:

Thank you for sending me a copy of your letter to Senator Hatfield concerning the Banfield Freeway high-occupancy vehicle lanes and the need for an additional highway to East Multnomah County.

As you have noticed, the Banfield Freeway HOV lane project has resulted in improved traffic movement. There has been an increase in the number of car poolers and bus riders as well as an improvement in the speed of vehicles in the regular auto lanes (as indicated in the attached report).

Local jurisdictions have decided impacts of a new freeway through Southeast Portland do not offset benefits. The regional transportation plan looks to better use of existing corridors to move traffic. The Banfield HOV lane project was initiated for these reasons. It is the forerunner of a larger scale project. An improvement to Powell Boulevard is also under way which contemplates developing that street to move additional traffic between I-205 and the Willamette River.

We are looking for substantial improvement in the transit (bus) system in order to improve service throughout the region as an alternative to requiring more cars to use near- and over-capacity freeways.

Your concerns are shared by many who travel from Portland to Gresham. I assure you that a sincere attempt is being made to provide an adequate transportation system for the future.

Sincerely,

H. S. Coulter
State Highway Engineer

cc Hon. Mark O. Hatfield
Hon. Vernon Cook

Margaret Stoltenberg
1480 S.E. 9th
Gresham, Oregon 97030

Mark O. Hatfield, Sentator
475 Cottage N.E.
Salem, Oregon

Dear Sentator Hatfield:

I get very upset everytime I read that more money is going to be spent on the Banfield freeway. Since federal money is supposed to be used I decided to express my view to you. I travel the Banfield everyday and wish that I didn't. Since they put the high occupancy lane in, it has helped a little but I do not feel that it is used that much. With all the other inadequate roads all three or 4 lanes need to be used for all of the traffic. But we need another road not just the Banfield. I do not want anymore of my federal tax money used for it. We need construction of another freeway to help. Or maybe make Powell one way and Division one way. Maybe the plan is to get more cars involved in car pooling but I tried to find someone and was notable to. Now I have to get right on the freeway from northwest Portland and make it to Gresham in time to pick my child up from nursery school. If I took the bus I would have to transfer twice and would not get out there in time. So I feel no matter what we will always have commuting people. With all the people that are moving to Gresham, Damascus, Estacada, etc. we need a better route for transportation.

Sincerely,
Margaret Stoltenberg
Margaret Stoltenberg

cc: Oregon State Highway Department
Vernon Cook, State Representative

ME PE PR1 PR2 DE
O.S.H.D. - METRO
SEP 17 1976
FILE T/A

RECEIVED
STATE HWY ENGR
SEP 17 '76
REFER TO
Bothman
FOR
Info | Invest | R/D | D/R | Sup | Act | File

8259

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Box 300, Salem, Oregon 97308

RECEIVED
STATE HWY ENGR
SEP 23 '76
REFER TO
FOR
Info | Inves | R/D | D/R | Sign | Act | File

September 22, 1976

IN REPLY REFER TO
1041A.6

Mr. Francis J. Ivancie, Commissioner
City Hall, Room 211
Portland, Oregon 97204

Dear Mr. Ivancie:

I have been asked to provide you with a written response to your telephone inquiry regarding continued operation of the Banfield HOV project. I understand your question to be whether or not closing of the HOV lanes was being considered in light of recent court action on the Santa Monica project in California.

While both projects are directed toward the same objective of increasing the efficiency of existing transportation systems, they differ in background and operation. The Santa Monica Diamond Lanes were created by converting existing freeway lanes to restricted use by HOV's, thereby reducing the number of general travel lanes. Consequently, ramp metering at some points was necessary. The Banfield was restriped to add lanes for HOV use at the expense of existing shoulders, thereby maintaining the same number of general travel lanes.

The Santa Monica project was challenged on the basis of legal procedure under California law and NEPA. The process followed on the Banfield was the normal and accepted process according to NEPA and Oregon Action Plan. The environmental assessment and subsequent environmental document have proven to be accurate to date and the monitoring data should be useful in future transportation planning in the Portland area.

Bachman
cy Patten
Rulien
Vensteeg
9-23-76

The basic responsibility for operations lies with the State Highway Division. They are working in close coordination with CRAG and local transportation officials and are responsive to the needs and trends of the Portland area. The Federal Highway Administration is not in a position to dictate operational controls. Federal regulations must be followed in order to qualify for Federal funding.

I trust that this answers your question regarding operations on the Banfield from an FHWA standpoint. If I can be of further assistance to you, please feel free to contact me.

Sincerely yours,
Original Signed By
G. L. Green
Division Administrator

G. L. Green
Division Administrator

cc:
Region 10 ED
" 10 PR
OSHD (H. S. Coulter)
OSHD (Bothman, Metro Region)

ROBERT W STRAUB
GOVERNOR

OREGON STATE HIGHWAY DIVISION

METROPOLITAN SECTION • 5821 N.E. GLISAN • PORTLAND, OREGON 97213

Telephone 238-8226

DIRECTOR'S FILE

September 22, 1976

PETER J. BRIX, Member
Oregon Transportation Commission
c/o Knappton Towboat Company
110 Southeast Caruthers Street
Portland, OR 97214

In response to your request, enclosed is some information on the Banfield Freeway high-occupancy-vehicle lane project. Included are the following:

1. A report to the Transportation Research Board, dated January, 1976. This report is a brief description of the project, stating its objectives and project justification.
2. A project report dated August, 1976, covering a summary of the first eight months of operation on the HOV lane
3. The Banfield Freeway Traffic Study summary, covering all aspects of traffic operations from November, 1975, to August, 1976
4. A tabulation of accidents on the Banfield Freeway from June, 1974, to June, 1976
5. Graphs of the average weekday traffic, by hour, during the morning and evening peak hours on two sample days in July, 1976.

Please contact me if you have any questions or comments.

ROBERT N. BOTHMAN
Ass't. State Highway Engineer

ebg

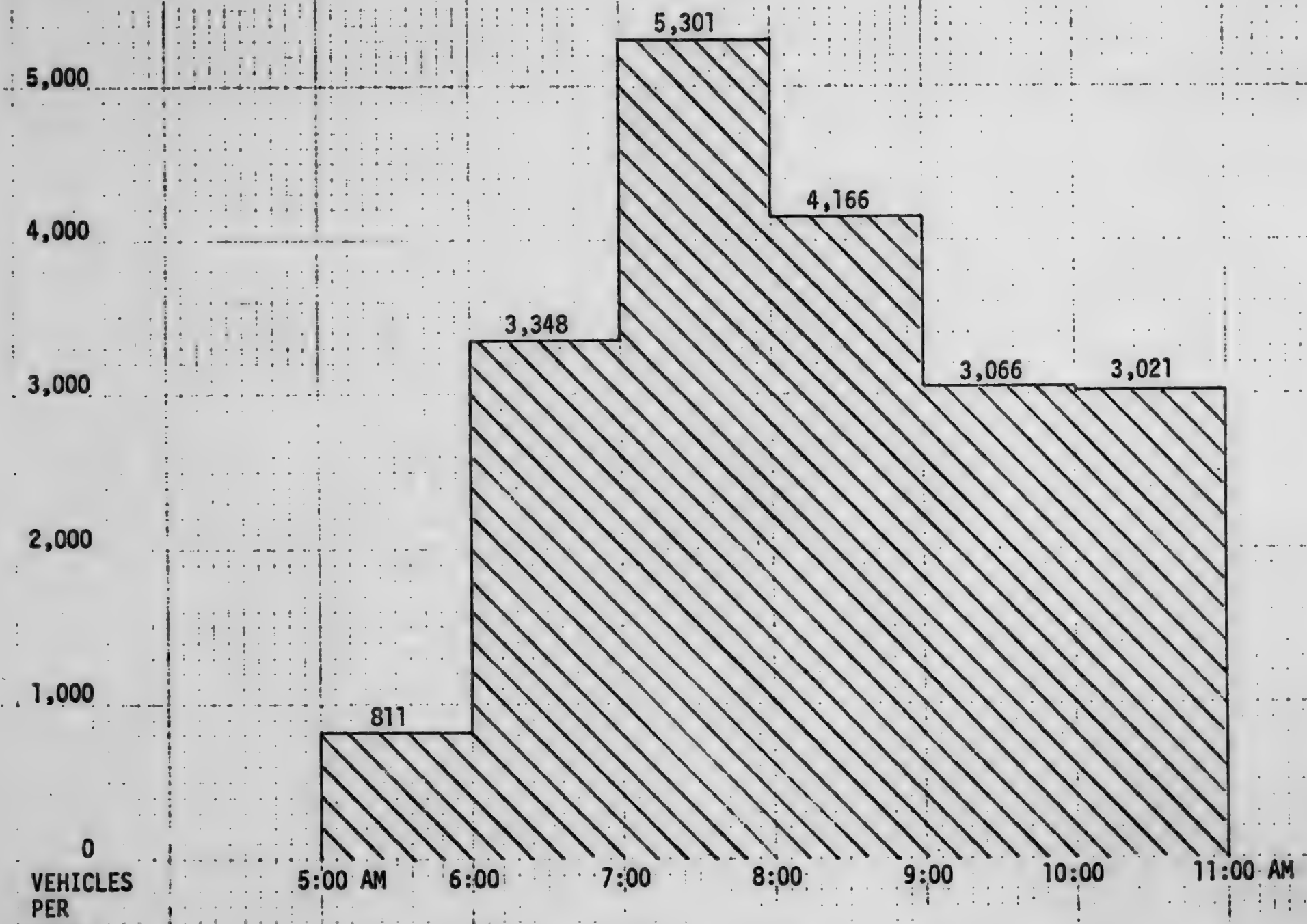
enclosures

cc: R. A. Burco
F. B. Klaboe
H. S. Coulter

RECEIVED
SEP 27 1976
OFFICE
DIRECTOR of TRANSPORTATION

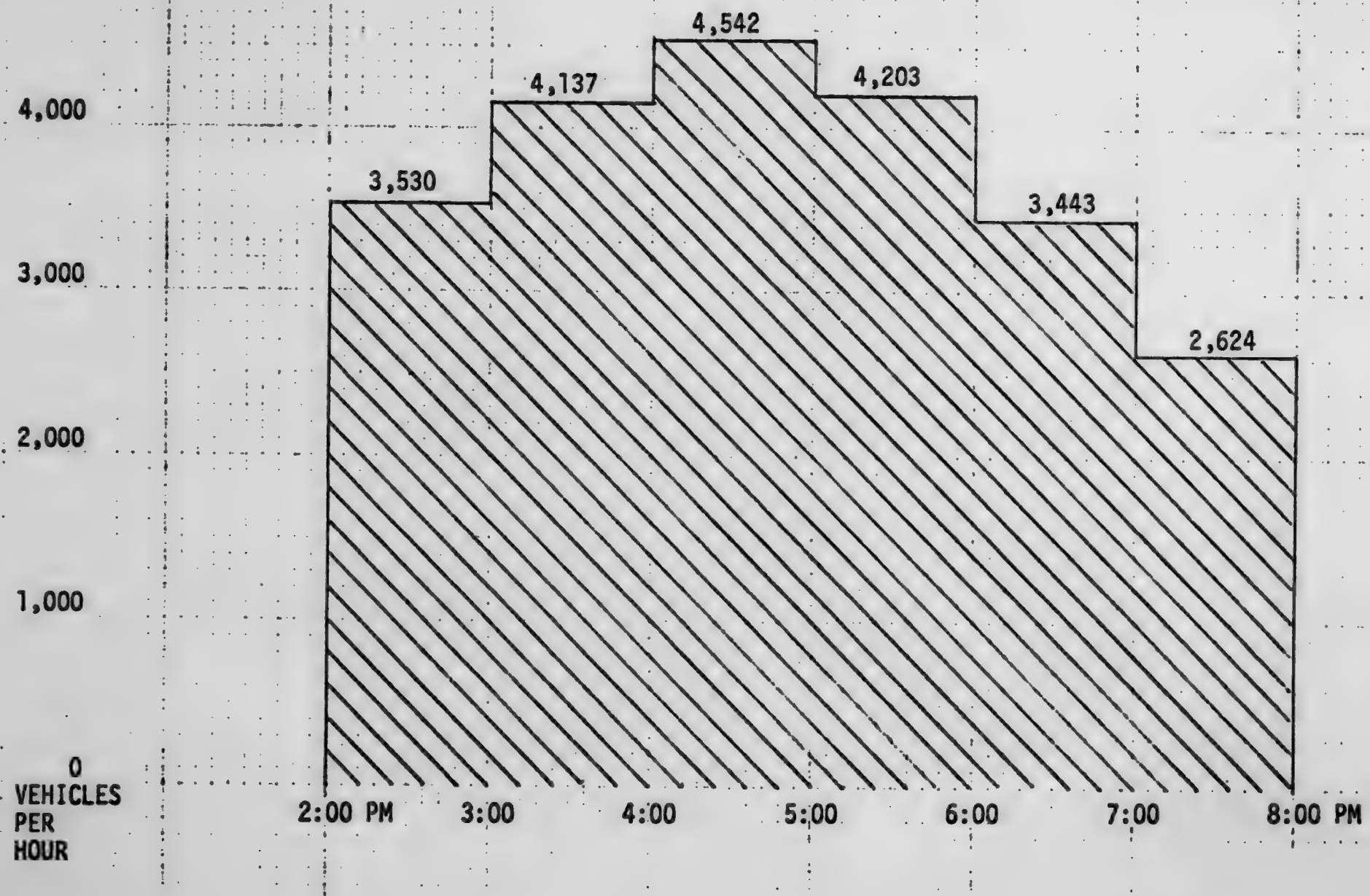
AVERAGE WEEKDAY TRAFFIC ON BANFIELD FREEWAY AT 21st AVE JULY 1976

WESTBOUND

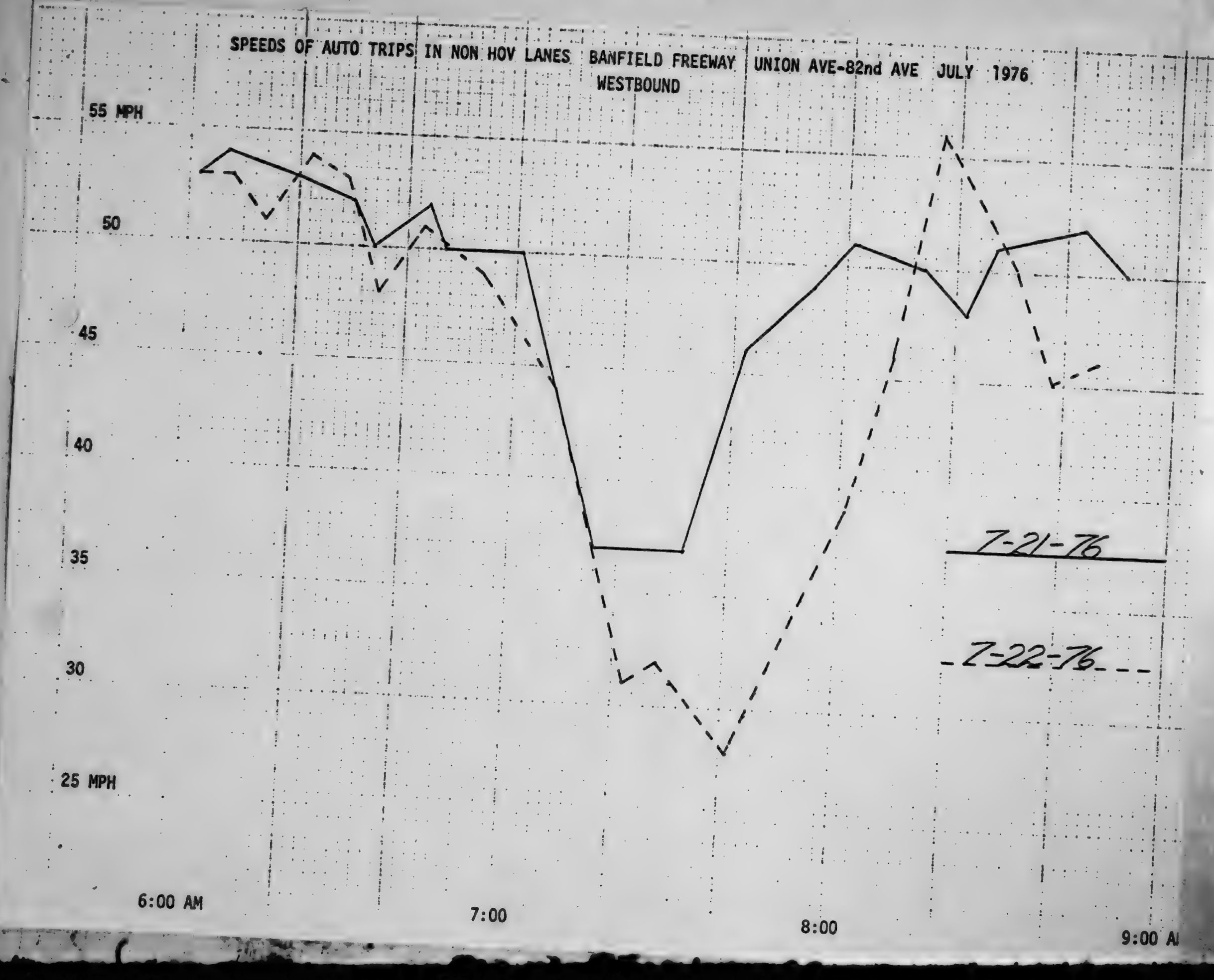


AVERAGE WEEKDAY TRAFFIC ON BANFIELD FREEWAY AT 21st AVE JULY 1976

EASTBOUND

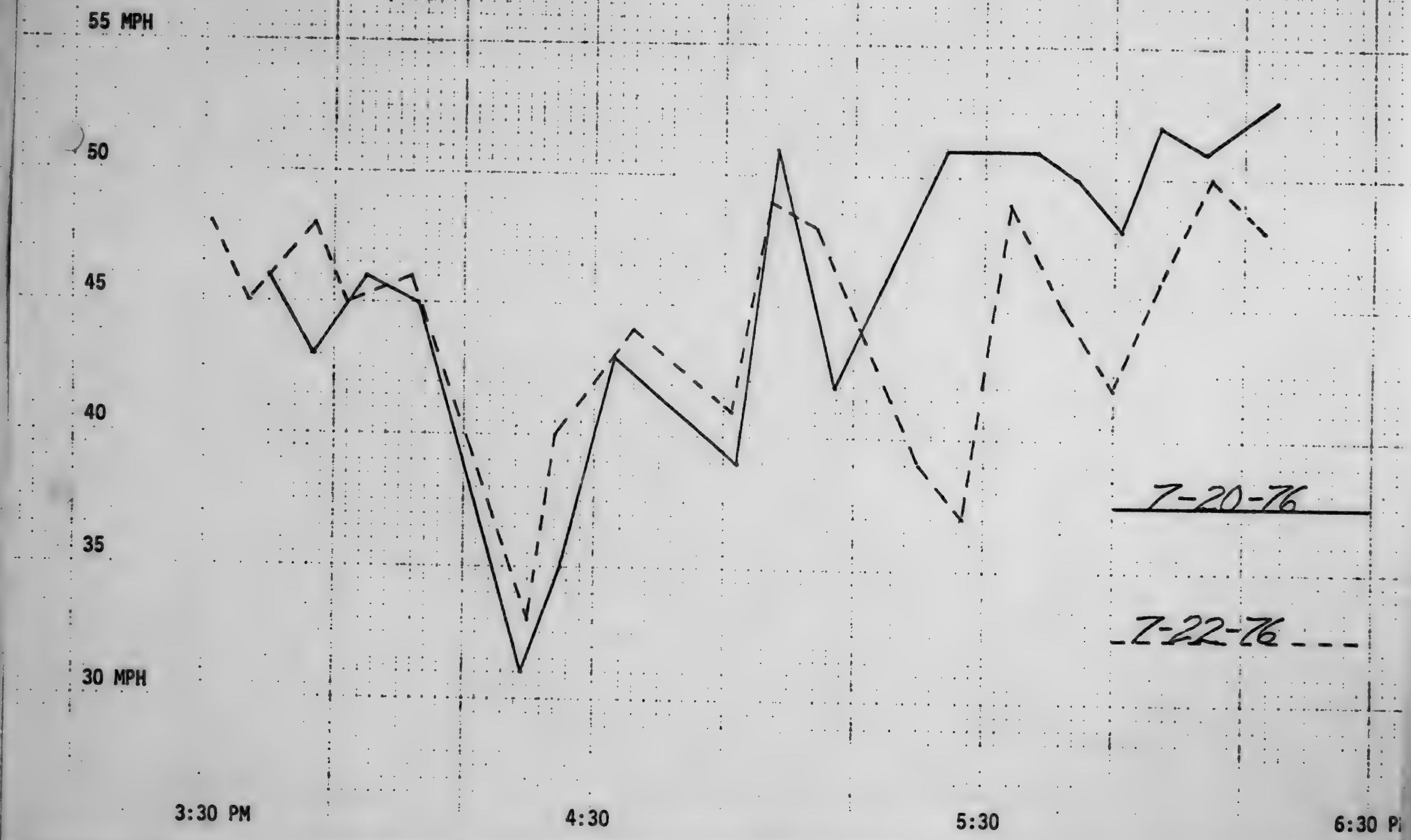


SPEEDS OF AUTO TRIPS IN NON HOV LANES BANFIELD FREEWAY UNION AVE-82nd AVE JULY 1976
WESTBOUND



SPEEDS OF AUTO TRIPS IN NON HOV LANES BANFIELD FREEWAY UNION AVE-82nd AVE JULY 1976

EASTBOUND



TABULATION OF ACCIDENTS

I-80N BANFIELD FREEWAY

JUNE, 1974 to JUNE, 1976

MONTH/YEAR	# ACCIDENTS	AVE. # VEHC.	ACCIDENTS/MILLION MILES
JUNE 1974	11	2.91	-
JULY 1974	16	2.00	-
AUG 1974	5	2.60	-
SEPT 1974	11	2.64	-
OCT 1974	8	2.50	-
NOV 1974	13	1.92	-
DEC 1974	No DATA	NO DATA	NO DATA
JAN 1975	6	1.83	-
FEB 1975	7	2.00	-
MAR 1975	10	2.00	-
APR 1975	9	1.89	-
MAY 1975	13	2.00	-
JUNE 1975	8	2.00	-
JULY 1975	19	2.11	-
AUG 1975	20	2.35	-
SEPT 1975	14	2.57	-
OCT 1975	30	2.50	-
NOV 1975	41	2.29	4.04
DEC 1975	34	2.18	3.23
JAN 1976	14	2.29	1.40
FEB 1976	15	2.53	1.54
MAR 1976	11	2.18	1.09
APR 1976	27	2.12	2.46
MAY 1976	14	2.08	1.27
JUNE 1976	11	1.91	0.95

BANFIELD FREEWAY TRAFFIC STUDY

	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
TRAFFIC VOLUME							
westbound	51,571	51,500	49,844	50,208	52,434	54,148	55,105
eastbound	48,195	49,077	47,761	48,516	50,743	51,672	52,728
total	99,766	100,577	97,605	98,724	103,177	105,820	107,833
PEAK HOUR AVERAGE SPEED							
westbound h. o. v. lane		49.7	48.0	48.4	49.5	51.4	46.0
westbound center lane		42.8	43.4	35.9	39.6	36.3	32.6
westbound right lane		45.3	43.7	38.6	39.7	43.4	35.3
westbound total (w/o hov1)	38.2*	43.8	43.5	38.6	39.7	40.4	34.1
eastbound h. o. v. lane		44.8	45.7	39.0	32.4	47.0	31.2
eastbound center lane		42.4	35.2	43.0	33.1	39.2	25.0
eastbound right lane		43.2	38.0	38.6	38.0	36.2	25.9
eastbound total (w/o hov1)	30.6*	42.8	36.6	40.2	35.6	37.7	25.5
PEAK HOUR VEHICLE OCCUPANCY							
westbound 1 occupant	79.44%	79.56%	79.29%	78.66%	78.56%	78.88%	79.22%
westbound 2 occupants	19.60%	18.98%	14.92%	16.21%	17.42%	16.62%	15.88%
westbound 3 or more occupants	0.96%	1.46%	5.79%	5.13%	4.02%	4.50%	4.90%
eastbound 1 occupant	74.73%	76.51%	76.95%	73.18%	74.61%	74.97%	76.39%
eastbound 2 occupants	22.74%	21.14%	16.41%	19.73%	19.49%	19.98%	19.31%
eastbound 3 or more occupants	2.53%	2.35%	6.64%	7.09%	5.89%	5.05%	4.30%
PEAK HOUR HIGH OCCUPANCY VEHICLE LANE OCCUPANCY							
westbound 1 occupant			26.60%	14.96%	23.11%	28.00%	12.04%
westbound 2 occupants			11.73%	14.96%	18.07%	20.21%	10.49%
westbound 3 or more occupants			61.73%	70.08%	58.82%	51.79%	77.47%
eastbound 1 occupant			18.08%	8.73%	4.59%	14.67%	8.43%
eastbound 2 occupants			6.78%	14.54%	16.33%	23.10%	18.48%
eastbound 3 or more occupants			75.14%	76.73%	79.08%	62.23%	73.09%

* AVERAGE SPEED FOR PERIOD APRIL TO SEPTEMBER 1975

NOTE 1647 Citations for HOV lane violations issued between April 1 and June 20, 1976

	MAY	JUNE	JULY	AUGUST	SEPTEMBER
TRAFFIC VOLUME					
westbound	55,105	56,853	56,681		
eastbound	52,728	54,198	53,910		
total	107,833	111,051	110,591		
PEAK HPUR AVERAGE SPEED					
westbound h. o. v. lane	46.0	51.2	50.2	48.6	
westbound center lane	32.6	40.8	37.2	37.5	AVERAGE SPEED WESTBOUND
westbound right lane	35.3	43.5	38.2	45.0	AUGUST 1975 = 41.6
westbound total (w/o hov1)	34.1	41.8	37.7	41.5	
eastbound h. o. v. lane	31.2	30.9	44.8	32.5	
eastbound center lane	25.0	29.1	45.1	28.8	AVERAGE SPEED EASTBOUND
eastbound right lane	25.9	28.9	45.3	29.4	AUGUST 1975 = 25.8
eastbound total (w/o hov1)	25.5	29.0	45.2	29.1	
PEAK HOUR VEHICLE OCCUPANCY					
westbound 1 occupant	79.22%	77.34%	78.20%	78.56%	
westbound 2 occupants	15.88%	16.90%	16.81%	16.69%	
westbound 3 or more occupants	4.90%	5.76%	4.99%	4.75%	
eastbound 1 occupant	76.39%	72.81%	72.69%	69.72%	
eastbound 2 occupants	19.31%	19.08%	19.41%	20.72%	
eastbound 3 or more occupants	4.30%	8.11%	7.90%	9.56%	
PEAK HOUR HIGH OCCUPANCY VEHICLE LANE OCCUPANCY					
westbound 1 occupant	12.04%	10.11%	8.65%	5.71%	
westbound 2 occupants	10.49%	8.47%	9.13%	4.08%	
westbound 3 or more occupants	77.47%	81.42%	82.21%	90.20%	
eastbound 1 occupant	8.43%	6.54%	10.84%	8.61%	
eastbound 2 occupants	18.48%	8.47%	7.63%	8.24%	
eastbound 3 or more occupants	73.09%	84.74%	81.53%	83.15%	

	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL
PEAK HOUR OCCUPANCY RATE						
westbound h. o. v. lane				2.551	2.357	2.238
westbound center and right lanes				1.175	1.186	1.176
westbound total	1.215	1.219	1.265	1.265	1.254	1.256
eastbound h. o. v. lane				2.680	2.745	2.476
eastbound center and right lanes				1.225	1.235	1.219
eastbound total	1.278	1.258	1.297	1.330	1.313	1.301
combined occupancy rate	1.224	1.225	1.270	1.300	1.283	1.277
PEAK HOUR VEHICLE LANE COUNT @ 47th						
westbound h. o. v. lane	N/A	196	239	251	196	254
westbound h. o. v. lane carpools	N/A	121	148	176	115	132
westbound center lane	1,892	1,830	1,848	2,143	2,220	1,911
westbound right lane	1,643	1,471	1,403	1,634	1,580	1,358
westbound total	3,535	3,497	3,490	4,028	3,996	3,523
eastbound h. o. v. lane	N/A	257	277*	236	290	215
eastbound h. o. v. lane carpools	N/A	193	208*	181	229	134
eastbound center lane	1,685	1,800	1,892*	1,845	2,106	2,085
eastbound right lane	1,611	1,483	1,215*	1,621	1,522	1,717
eastbound total	3,296	3,540	3,384*	3,702	3,918	4,017
PEAK HOUR PERSONS PER LANE						
westbound h. o. v. l. transit persons			N/A	579	611	604
westbound h. o. v. l. carpool persons		363	444	528	345	396
westbound total h. o. v. l. persons	N/A	N/A	N/A	1,107	956	1,000
westbound h. o. v. l. violators		139	168	112	117	172
westbound center lane	2,299	2,139	2,151	2,518	2,633	2,247
westbound right lane	1,996	1,720	1,633	1,920	1,848	1,597
westbound total	4,295	4,361	4,396	5,657	5,554	5,016
eastbound h. o. v. l. transit persons			N/A	575	582	565
eastbound h. o. v. l. carpool persons		579	624	543	687	402
eastbound total h. o. v. l. persons		N/A	N/A	1,118	1,269	967
eastbound h. o. v. l. violators		106	114	89	109	130
eastbound center lane	2,197	2,206	2,320	2,260	2,601	2,542
eastbound right lane	2,101	1,818	1,490	1,986	1,880	2,093
eastbound total	4,298	4,709	4,548	5,453	5,859	5,732

* 60th Ave.

	APRIL	MAY	JUNE	JULY	AUGUST
PEAK HOUR OCCUPANCY RATE					
westbound HOV lane	2.238	2.654	2.713	2.736	2.845
westbound center and right lanes	1.176	1.177	1.188	1.188	1.192
westbound total	1.256	1.257	1.284	1.268	1.262
eastbound HOV lane	2.476	2.647	2.782	2.707	2.745
eastbound center and right lanes	1.219	1.215	1.239	1.253	1.287
eastbound total	1.301	1.279	1.353	1.352	1.398
combined occupancy rate	1.277	1.268	1.318	1.308	1.328
PEAK HOUR VEHICLE LANE COUNT @ 47th					
westbound HOV lane	254	194	186	180	163
westbound HOV lane carpools	132	150	151	148	147
westbound center lane	1,911	2,026	2,067	2,029	2,120
westbound right lane	1,358	1,807	1,723	1,755	1,579
westbound total	3,523	4,027	3,976	3,964	3,862
eastbound HOV lane	215	236	282	274	282
eastbound HOV lane carpools	134	172	239	223	234
eastbound center lane	2,085	1,935	1,867	2,059	1,972
eastbound right lane	1,717	1,527	1,487	1,413	1,511
eastbound total	4,017	3,698	3,636	3,746	3,765
PEAK HOUR PERSONS PER LANE					
westbound HOV lane transit persons	604	598	611	666	651
westbound HOV lane carpool persons	396	450	453	444	441
westbound total HOV lane persons	1,000	1,048	1,064	1,110	1,092
westbound HOV lane violators	172	65	52	48	23
westbound center lane	2,247	2,385	2,456	2,410	2,527
westbound right lane	1,597	2,127	2,047	2,085	1,882
westbound total	5,016	5,625	5,619	5,653	5,524
eastbound HOV lane transit persons	565	597	614	638	648
eastbound HOV lane carpool persons	402	516	717	669	702
eastbound total HOV lane persons	967	1,113	1,331	1,307	1,350
eastbound HOV lane violators	130	109	68	73	71
eastbound center lane	2,542	2,351	2,313	2,580	2,538
eastbound right lane	2,093	1,855	1,842	1,770	1,945
eastbound total	5,732	5,428	5,554	5,730	5,904

	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
RIDERSHIP ON BANFIELD FLYER							
westbound only	N/A	106	160	186	208	203	217
eastbound only	N/A	93	148	169	179	189	196
totals	N/A	199	308	355	387	392	413
ACCIDENT RATE							
total reported accidents	65	81	30	24	32	41	
accidents per million vehicle miles	6.4	7.7	2.9	2.4	3.2	3.7	
PEAK HOUR VEHICLE OCCUPANCY							
SUNSET (HWY-26) FREEWAY @ ZOO-OMSI							
eastbound 1 occupant (7:00-8:00 AM)					81.24%	80.86%	80.57%
eastbound 2 occupants					17.37%	17.87%	18.32%
eastbound 3 or more occupants					1.39%	1.27%	1.11%
eastbound occupancy rate					1.201	1.204	1.205
westbound 1 occupant (4:30-5:30 PM)					77.4%	76.78%	79.93%
westbound 2 Occupants					20.4%	21.87%	17.22%
westbound 3 or more occupants					2.2%	1.35%	2.85%
westbound occupancy rate					1.248	1.246	1.229
PEAK HOUR VEHICLE OCCUPANCY							
MINNESOTA (I-5) FREEWAY @ AINSWORTH							
southbound 1 occupant					81.4%	79.30%	81.27%
southbound 2 occupants					17.2%	18.67%	15.56%
southbound 3 or more occupants					1.4%	2.03%	3.16%
southbound occupancy rate (7:00-8:00 AM)					1.200	1.227	1.219
northbound 1 occupant					67.7%	63.76%	69.98%
northbound 2 occupants					26.6%	27.75%	24.87%
northbound 3 or more occupants					5.7%	8.49%	5.14%
northbound occupancy rate (4:30-5:30 PM)					1.380	1.447	1.352

	MAY	JUNE	JULY	AUGUST	SEPTEMBER
RIDERSHIP ON BANFIELD FLYER					
westbound only	217	237*	249	239	
eastbound only	196	218*	230	224	
total	413	456*	479	463	
ACCIDENT RATE					
total reported accidents					
accidents per million vehicle miles					
PEAK HOUR VEHICLE OCCUPANCY					
SUNSET (HWY-26) FREEWAY @ ZOO-OMSI					
eastbound 1 occupant (7:00-8:00 AM)	80.57%	81.72%	78.70%	81.50%	
eastbound 2 occupants	18.32%	16.62%	18.57%	15.98%	
eastbound 3 or more occupants	1.11%	1.66%	2.73%	2.51%	
eastbound occupancy rate	1.205	1.199	1.240	1.210	
westbound 1 occupant (4:30-5:30 PM)	79.93%	76.57%	75.03%	76.08%	
westbound 2 occupants	17.22%	20.13%	21.08%	19.99%	
westbound 3 or more occupants	2.85%	3.30%	3.89%	3.93%	
westbound occupancy rate	1.229	1.267	1.289	1.279	
PEAK HOUR VEHICLE OCCUPANCY					
MINNESOTA (I-5) FREEWAY @ AINSWORTH					
southbound 1 occupant (7:00-8:00 AM)	81.27%	80.99%	81.12%	81.70%	
southbound 2 occupants	15.56%	16.09%	15.97%	16.31%	
southbound 3 or more occupants	3.16%	2.92%	2.91%	1.99%	
southbound occupancy rate	1.219	1.219	1.218	1.203	
northbound 1 occupant (4:30-5:30 PM)	69.98%	67.35%	62.86%	56.29%	
northbound 2 occupants	24.87%	22.87%	24.98%	28.74%	
northbound 3 or more occupants	5.14%	9.78%	12.16%	14.97%	
northbound occupancy rate	1.352	1.424	1.493	1.587	

* BANFIELD FLYER ROUTES REVISED JUNE 14, 1976

	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL
PEAK HOUR TRAFFIC VOLUME (ARTERIAL STREETS)						
n. e. sandy @ 20th westbound	1,122	1,182	962	975	1,023	1,009
eastbound	1,209	N/A	1,152	1,201	1,206	1,194
n. e. sandy @ 41st westbound	965	1,060	1,039	943	1,014	1,006
eastbound	1,303	1,296	1,168	1,185	1,168	1,248
east burnside @ 21st westbound	1,193	N/A	N/A	1,280	1,199	1,143
eastbound	1,216	1,147	1,088	1,083	1,081	1,111
n. e. broadway @ 21st westbound	1,385	N/A	1,402	1,251	1,307	1,346
n. e. weidler @ 21st eastbound					1,236	1,317

	APRIL	MAY	JUNE	JULY	AUGUST
PEAK HOUR TRAFFIC VOLUME (ARTERIAL STREETS)					
n. e. sandy @ 20th westbound	1,099	1,006	1,017	992	947
eastbound	1,194	1,188	1,260	1,052	1,115
n. e. sandy @ 41st westbound	1,006	1,012	950	995	972
eastbound	1,248	1,192	1,275	1,172	N/A
east burnside @ 21st westbound	1,143	1,197	1,099	1,092	1,081
eastbound	1,111	1,068	1,060	1,036	1,046
n. e. broadway @ 21st westbound	1,346	1,304	1,301	1,217	1,227
n. e. weidler @ 21st eastbound	1,317	1,306	1,182	1,241	1,252

BANFIELD FREEWAY AT 21st

Average Daily Traffic (Weekday)

MONTH	YEAR	WESTBOUND	% CHANGE FROM PREVIOUS YEAR WESTBOUND ONLY	EASTBOUND	% CHANGE FROM PREVIOUS YEAR EASTBOUND ONLY	TOTAL	% CHANGE FROM PREVIOUS YEAR TOTAL
AUGUST	1974	54213		52202		106415	
SEPTEMBER	1974	52215		50955		103170	
OCTOBER	1974	51722		50172		101894	
NOVEMBER	1974	52185		47993		100178	
DECEMBER	1974	NA		49199		NA	
JANUARY	1975	NA		48120		NA	
FEBRUARY	1975	48702		48279		96981	
MARCH	1975	51188		50678		101866	
APRIL	1975	51754		50664		102418	
MAY	1975	54146		51899		106045	
JUNE	1975	55174		53680		108854	
JULY	1975	54402		52783		107185	
AUGUST	1975	54225	+0.02	52218	+0.03	106443	+0.03
SEPTEMBER	1975	52009	-0.40	50139	-1.63	102148	-1.00
OCTOBER	1975	51732	+0.02	50076	-0.19	101808	-0.08
NOVEMBER	1975	51571	-1.19	48195	+0.42	99766	-0.41
DECEMBER	1975	51500	NA	49077	NA	100577	NA
JANUARY	1976	49844	NA	47761	NA	97605	NA
FEBRUARY	1976	50208	+3.09	48516	+0.49	98724	+1.80
MARCH	1976	52434	+2.43	50743	+0.13	103177	+1.29
APRIL	1976	54148	+4.63	51672	+1.99	105820	+3.32
MAY	1976	55105	+1.77	52728	+1.60	107833	+1.69
JUNE	1976	56853	+3.04	54198	+0.96	111051	+2.02
JULY	1976	56681	+4.19	53910	+2.13	110591	+3.18

BANFIELD FREEWAY AT 21st

Average Peak Hours Traffic Volume

EASTBOUND (Weekday)

MONTH	YEAR	3:00-4:00PM	4:00-5:00PM	5:00-6:00PM	% CHANGE FROM PREVIOUS YEAR 4-5 PM	TOTAL	% CHANGE TOTAL FROM PREVIOUS YEAR
AUGUST	1974	4222	4669	4160		13051	
SEPTEMBER	1974	4215	4669	4150		13034	
OCTOBER	1974	4148	4588	4015		12751	
NOVEMBER	1974	4078	4511	3932		12521	
DECEMBER	1974	4477	4122	3297		11896	
JANUARY	1975	4166	4792	4105		13063	
FEBRUARY	1975	4137	4813	4059		13009	
MARCH	1975	4184	4925	4110		13219	
APRIL	1975	4240	4913	4314		13467	
MAY	1975	4254	4786	4322		13362	
JUNE	1975	4243	4745	4345		13333	
JULY	1975	4181	4655	4261		13097	
AUGUST	1975	4120	4321	4122	-8.05	12563	-3.82
SEPTEMBER	1975	4051	4170	3882	-11.97	12103	-7.69
OCTOBER	1975	4156	4451	4031	-3.08	12638	-0.89
NOVEMBER	1975	3736	4149	3651	-8.72	11536	-8.54
DECEMBER	1975	3978	4315	3635	+4.68	11928	+0.27
JANUARY	1976	3936	4569	4024	-4.88	12529	-4.26
FEBRUARY	1976	4027	4712	4175	-2.14	12914	-0.74
MARCH	1976	4090	4685	4302	-5.12	13077	-1.09
APRIL	1976	4214	4571	4269	-1.05	13054	-3.16
MAY	1976	4284	4726	4303	-1.27	13313	-0.37
JUNE	1976	4292	4551	4207	-3.30	13050	-2.17
JULY	1976	4137	4542	4203	-2.49	12882	-1.67

BANFIELD FREEWAY AT 21st

Average Peak Hours Traffic Volume

WESTBOUND (Weekday)

MONTH	YEAR	6:00-7:00AM	7:00-8:00AM	8:00-9:00AM	% CHANGE 7-8 AM FROM Previous year	TOTAL	% CHANGE TOTAL FROM PREVIOUS YEAR
AUGUST	1974	3114	5075	3994		12183	
SEPTEMBER	1974	3132	5264	4256		12652	
OCTOBER	1974	3196	5380	4573		13149	
NOVEMBER	1974	3171	5341	4447		12959	
DECEMBER	1974	NA	NA	NA		NA	
JANUARY	1975	NA	NA	NA		NA	
FEBRUARY	1975	2723	4880	4148		11751	
MARCH	1975	2670	5001	4183		11854	
APRIL	1975	2859	5229	4402		12490	
MAY	1975	3101	5440	4495		13036	
JUNE	1975	3042	5228	4270		12540	
JULY	1975	3015	5220	4096		12331	
AUGUST	1975	2873	5014	3967	-1.22	11854	-2.75
SEPTEMBER	1975	3010	5071	4083	-3.81	12164	-4.01
OCTOBER	1975	2954	5021	4227	-7.15	12202	-7.76
NOVEMBER	1975	2933	4792	4073	-11.46	11798	-9.84
DECEMBER	1975	2713	4638	3837	NA	11188	NA
JANUARY	1976	2786	5018	4122	NA	11926	NA
FEBRUARY	1976	2783	5087	4162	+4.24	12032	+2.39
MARCH	1976	2920	5246	4182	+4.24	12348	+4.17
APRIL	1976	2989	5311	4592	+1.57	12892	+3.22
MAY	1976	3189	5371	4477	-1.28	13037	+0.01
JUNE	1976	3288	5247	4275	+0.12	12810	+2.15
JULY	1976	3348	5301	4166	+1.55	12815	+3.93

#8259

FORM 81-734-2030

OREGON STATE HIGHWAY DIVISION

INTER-OFFICE CORRESPONDENCE

Portland, OR 97213

September 17, 1976

FILE: 7877 (100)

FROM: ROBERT N. BOTHMAN
Ass't. State Highway Engineer

SUBJECT: Banfield HOV lane

TO: MEMO TO THE FILE

At Commissioner Brix's request I briefed him on the current HOV lane project background and operation progress.

He requested additional information which will be prepared and presented to him to document the current four-hour a.m. and p.m. operation, and to document the current three-occupant carpool designation.

The discussion gave me the impression that he was in favor and understood the significance of the project's objectives. Current operational characteristics indicating the project's success were reviewed with him, including the background information as to how the project developed, and the department's involvement.

The enforcement issue was discussed at length.

The use of the advisory committee was discussed.

The tie relationship to the future Banfield project under development as an E-4 project was discussed. That is, the current HOV lane is a forerunner and an introduction to the public of a future project in the corridor.

I also discussed the general regional transportation plan goals and objectives--the switch from ninety miles of freeway on the old PVMTS to the present transit-oriented transportation plan, and the affect of those goals and objectives on planning future improvements. I believe they heavily relate to the current Banfield HOV lane project.

ebg

cc: R. A. Burco
F. B. Klaboe
H. S. Coulter

Note: Commissioner Brix requested he be sent the monthly status report on the project. He indicated he will advise when he wishes us to discontinue receiving them after he gets the feel of the project.

RECEIVED DOT OPERATIONS SEP 20 '76 REFER TO FOR Info Invest R/D O/R Sign Act File

MAX: Randy - start with Sept Rpt. Bothman

8259 NE Union Ave-NE 82nd Ave Sec. 19
Columbia River Hwy in Portland
(Grad.pav.bar.sign. & ill.) #4

C&A 5783 8-6-76

#2259

ROBERT W. STRAUB
GOVERNOR

DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY BUILDING • • SALEM, OREGON • • 97310

August 30, 1976

Oregon Transportation Commission

Gentlemen:

At your Commission meeting on August 24, you expressed some concern about the current performance characteristics of the Banfield Freeway High-Occupancy Vehicle Lane. I have asked Bob Bothman to prepare a short report on the current status of the Banfield operations and forward it to you for your consideration.

Mr. Bothman would be available to discuss the matter further with you, and I encourage individual Commissioners to request some portion of his time to do just this.

The project is a very valuable portion of our involvement in Portland and, as these things go, seems to be quite successful. While the problems that you mentioned are real, notably the lack of Tri-Met buses filling the lane, the key point is that 20 percent of the persons using the freeway are in the high-occupancy vehicle lane in 4 percent of the vehicles.

This is an important project as far as the Department's contributions to energy conservation and joint transit-highway development. It would be unfortunate, in my judgment, were it to be curtailed over objections from Eastern Oregon without the costs and the operations being carefully explained. For that reason, I urge you to request a personal briefing by Mr. Bothman so that all of the facts will be available to you in responding to requests for information from constituents.

Very truly yours,

Robert A. Burco

Robert A. Burco
Director of Transportation

RAB:fn
Enc.

bc F. B. Klaboe
R. N. Bothman

NOT
F. B. KL

RECEIVED
DOT OPERATIONS
SEP 1 '76
REFER TO
FOR
Info | Invest | R/D | D/R | Sign | Act | File

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259

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 8		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Multnomah
MODIFICATION NUMBER 3	8-9-76	Project Number U-323(27)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on August 8 , 19 75 , is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 2,059,384	$ 2,201,757
Federal funds	$ 1,610,200	$ 1,721,500
Other revisions		

This modification is made for the following reasons:

To include additional approved items

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 9th day of August , 19 76 .

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E J Hunter

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)

for:
G.L. Green

GPO 695-313

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

Oregon State Highway Division
Salem, Oregon, July 29, 1976

Federal Aid Project
No. U-323(27)

N.E. UNION AVE.-N.E. 82ND AVE. SECTION
COLUMBIA RIVER HWY IN MULTNOMAH

Revised Project Agreement Estimate.

Type Code 6201
Roadway (Sta. 22+42 to Sta. 275+70)

Subtotal on Previous Estimate of May 14, 1976			$1,737,498.55
Additional Approved Items			
PA 6 Temporary Traffic Protection	Lump Sum		$ 5,600.00
PA 6 Flagmen	241 hour	16.00	3,856.00
PA 6 Removal of Structures & Obstructions	Lump Sum		5,000.00
PA 6 Clearing and Grubbing	Lump Sum		4,500.00
PA 6 General Excavation	942 cu.yd.	9.00	8,478.00
PA 6 Finishing Roadbed & Slopes	Lump Sum		5,000.00
PA 6 Class "C" Asphalt Concrete	512 ton	18.00	9,216.00
PA 6 Asphalt Cement in Mixture	32 ton	79.00	2,528.00
PA 6 8-inch Sewer Pipe	31 lin.ft.	25.00	775.00
PA 6 Type G-I Inlet	4 only	500.00	2,000.00
PA 6 Reconstruct Existing Manhole	1 only	550.00	550.00
PA 6 Concrete Curb, Type 'C'	46 cu.yd.	138.00	6,348.00
PA 6 Guard Rail Anchor, Type 2	1 only	300.00	300.00
PA 6 Salvage & Reinstall Guard Rail, Type 2A	1,496 lin.ft.	8.50	12,716.00
PA 6 Illumination Foundation	3 only	354.00	1,062.00
PA 6 Bridge Connection	1 only	350.00	350.00
PA 6 Relocate Existing Illumination Pole	3 only	388.00	1,164.00
PA 6 Wire & Trenching	657 lin.ft.	3.16	2,076.12
PA 6 Salvage & Reinstall Signs	2 only	50.00	100.00
PA 10 Misc. Median Barrier Work	Lump Sum		4,932.00
PA 11 Metal Bin Wall Work	Lump Sum		8,450.00
PA 13 Extend W. Bd. Shoulder Barrier (Sandy Blvd.)	312 lin.ft.	21.00	6,552.00
PA 13 Extend E. Bd. Shoulder Barrier (39th Ave.)	75 lin.ft.	21.00	1,575.00
PA 13 Extend W. Rd. Shoulder Barrier (39th Ave.)	62 lin.ft.	21.00	1,302.00
PA 13 Extend E. Bd. Shoulder Barrier (82nd Ave.)	37 lin.ft.	21.00	777.00
PA 13 Additional Shoulder Barrier at W. Bd. 82nd Ave.	288 lin.ft.	21.00	6,048.00
PA 15 Advance Warning Signs (21st & 82nd)	Lump Sum		13,175.00
SF07 Furnish, Install & Maintain Air Quality Environmental Trailer	All Required		15,000.00

Increase	$ 129,430.12
Subtotal	$1,866,928.67
Engineering	186,692.33
Total	$2,053,621.00

Type Code Y003
Headlight Glare Shield (Sta. 27+45 to Sta. 275+69.5)

Total Same as previous estimate of May 14, 1976 $ 148,136.00

Length of Project - - - - - 4.798 miles
Cost of Roadway Per Mile- - - $428,016.05

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway	$2,053,621.00	$1,605,700.00	$447,921.00
Headlight Glard Shield	148,136.00	115,800.00	32,336.00
Total	$2,201,757.00	$1,721,500.00	$480,257.00

Group 1 - 100%

Contract No. 8259 (Roadway)

Prefix 26-1051

Group 1 - 100%

Contract No. 8355 (Glare Shield)

Prefix 26-1066

8259

STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No. 04-R2089
MONTHLY TRANSACTION NUMBER 5-208		State Oregon
PROJECT REPORT NUMBER	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County Multnomah
MODIFICATION NUMBER 2	5-21-76	Project Number U-323(27)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on August 8, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 1,911,248	$ 2,059,384
Federal funds	$ 1,494,400	$ 1,610,200
Other revisions		

This modification is made for the following reasons:

To include contract for installation of glare screen.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 21st day of May, 1976.

Oregon State Highway Division
(Official name of Highway Agency)

By E J Hamb

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)

For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 895-813

Oregon State Highway Division
Salem, Oregon, May 14, 1976

Federal-Aid Project
No. U-323(27)

N.E. Union Ave.-N.E. 82nd Ave. Section
Columbia River Highway
Multnomah County

Revised Project Agreement Estimate to include Glare Screen Contract.

Type Code 6201
Roadway (Sta. 22+42 to Sta. 275+70)

Mobilization	All Required		$ 125,000.00
Temporary Protection and Direction of Traffic	All Required		90,000.00
Temporary Signs	1,780 sq.ft.	6.50	11,570.00
Temporary Barricades	10 only	100.00	1,000.00
Temporary Plastic Safety Markers	10 only	70.00	700.00
Flagmen	2,000 hours	16.00	32,000.00
Sequential Arrow Sign	2 only	3,500.00	7,000.00
Clearing and Grubbing	All Required		10,000.00
Removal of Structures and Obstructions	All Required		70,000.00
Embankment in Place	3,540 cu.yds.	9.00	31,600.00
Finishing Roadbed and Slopes	All Required		7,500.00
Furnishing and Placing Topsoil	45 cu.yds.	12.00	540.00
Watering	60 M-gals.	15.00	900.00
Structure Excavation	310 cu.yds.	6.00	1,800.00
Aggregate Shoulders	250 cu.yds.	10.00	2,500.00
Class "C" Asphalt Concrete Mixture	5,800 tons	14.00	81,200.00
Class "C" Mod. Asphalt Concrete Mixture	20,000 tons	11.75	235,000.00
Class "D" Asphalt Concrete Mixture in Leveling Course	6,000 tons	11.75	70,500.00
Portland Cement Additive in Class "C" Mod. Mixture	200 tons	50.00	10,000.00
Asphalt Cement in Mixture	2,050 tons	75.00	153,750.00
Asphalt in Tack Coat	50 tons	150.00	7,500.00
Metal Bin Type Retaining Wall, Station 97	All Required		28,000.00
8-inch Sewer Pipe	230 lin.ft.	25.00	5,750.00
Special Access Manhole, Type 1	3 only	2,000.00	6,000.00
Concrete Inlets, Type G-1	38 only	350.00	13,300.00
Guard Rail, Type 2A	1,665 lin.ft.	8.50	14,152.50
Guard Rail Anchors, Type 1	2 only	350.00	700.00
Guard Rail Anchors, Type 2	3 only	300.00	900.00
Extra for Guard Rail Bridge Connections	10 only	350.00	3,500.00

Rail End Pieces, Type A	1 only	20.00	20.00
Rail End Pieces, Type C	4 only	150.00	600.00
CL-4R Chain Link Fence	230 lin.ft.	7.00	1,610.00
4-inch Concrete Surfacing	100 sq.yds.	11.00	1,100.00
Concrete Curbs	145 cu.yds.	197.00	28,565.00
Concrete in Barriers	28,437 lin.ft.	14.00	398,118.00
Reinforcement in Barriers	230 cu.yds.	165.00	37,950.00
Adjusting Manholes	2,550 lbs.	0.50	1,275.00
Reconstructing Concrete Manholes	68 only	120.00	8,160.00
Adjusting Inlets	3 only	500.00	1,500.00
Impact Attenuators (Hi-Dro Cushion Cells)	103 only	50.00	5,150.00
Mono-Directional (Crystal Type I Markers)	All Required		16,000.00
White Type II Markers	2,620 only	2.10	5,502.00
	17,589 only	1.00	17,589.00
Signing			
Removal of Existing Sign Installations	All Required		1,000.00
Painted Wood Sign Posts	All Required		1,800.00
Structure Mounts	All Required		28,200.00
Type "C" and "D" Signs in Place	1,387 sq.ft.	8.50	11,789.50
Type "H" Signs in Place	18 sq.ft.	6.50	117.00
Type "U" Signs in Place	60 sq.ft.	10.00	600.00
Move and Reinstall Existing Signs	All Required		450.00
Sign Illumination Equipment	All Required		1,800.00
Illumination			
Foundations			
Frangible Alluminum Transformer Bases	4 only	354.00	1,416.00
Relocate Existing Light Pole to New Foundation	18 only	365.00	6,570.00
Switching, Conduit, Wiring, Lamps, Etc.	5 only	390.00	1,950.00
Signals	All Required		13,750.00
Flashing Beacon Installation, Complete	All Required		1,950.00
			$1,640,254.00

Anticipated Items

Railroad Protective Costs	All Required		$ 7,000.00	
Permanent Pavement Striping (S.F.)	All Required		2,500.00	
Stage Construction Striping (S.F.)	All Required		1,000.00	
Temporary Erosion Control (E.W.)	All Required		1,000.00	
On-the-Job Trainees (3 at $800)(E.W.)	All Required		2,400.00	
EWO #1 Removal of Existing Pavement Patching	All Required		10,000.00	
EWO #2 Adjust Sprinkler System	All Required		10,000.00	
PA 1 Amber Flashers	22 only	125.00	2,750.00	
PA 3 Install Telephone Conduits	Lump Sum		23,000.00	
PA 4 Revise Roadway Illumination	Lump Sum		1,100.00	
PA 5 Temporary Protection and Direction of Traffic	Lump Sum		2,000.00	
PA 5 Flagmen	80 hours	16.00	1,280.00	
PA 5 Concrete Curb Removal	375 lin.ft.	1.00	375.00	
PA 5 Remove Inlet	1 only	150.00	150.00	
PA 5 General Excavation	600 cu.yds.	6.75	4,050.00	
PA 5 Finishing Roadbed and Slopes	Lump Sum		2,300.00	
PA 5 Class "C" Asphalt Concrete Mixture	313 tons	17.00	5,321.00	
PA 5 Asphalt Cement in Mixture	19 tons	79.00	1,501.00	
PA 5 8-inch Sewer Pipe	15 lin.ft.	25.00	375.00	
PA 5 Concrete Inlet, Type G1	1 only	500.00	500.00	
PA 5 Concrete Curbs, Type F	3 cu.yds.	197.00	591.00	
PA 5 Salvage and Reinstall Barrier	100 lin.ft.	26.00	2,600.00	
PA 5 Concrete Barrier	212 lin.ft.	19.50	4,134.00	
PA 5 Foundations	2 only	365.00	730.00	
PA 5 Relocate Existing Poles	2 only	390.00	780.00	
PA 5 Remove Existing Pole Bases	2 only	200.00	400.00	
PA 5 Wiring and Trenching	300 lin.ft.	3.16	948.00	
EWO 6 Remove Ivy Vines	All Required		1,159.55	
EWO 7 Adjust Manhole, Sta. 228+00	All Required		1,000.00	
EWO 8 Move Light Pole to New Base	All Required		600.00	
EWO 9 Curb and Pavement Removal and Add Curb	All Required		4,500.00	
SFO 5 Fabricate and Install Traffic Signs	All Required		1,200.00	
			$ 97,244.55	
Subtotal			$1,737,498.55	
Engineering			173,749.45	
Total			$1,911,248.00	

eral-Aid U-323(27)

$ 12,
2,00
5,575
1,784.
99,480.
2,800.0
3,413.0
742.00
4,671.00
4,669.30
1,466.70
136.00

1006

Type Code Y003
Headlight Glare Shield (Sta. 27+45 to Sta. 275+69.5)

Temporary Protection and Direction of Traffic	All Required		$ 12,000.00
Temporary Signs	200 sq.ft.	4.50	900.00
Temporary Plastic Safety Markers	10 only	70.40	704.00
Sequential Arrow Sign	2 only	1,000.00	2,000.00
Flagmen	40 hours	15.00	600.00
14-inch Plastic Glare Shield Blades	500 only	11.15	5,575.00
18-inch Plastic Glare Shield Blades	160 only	11.15	1,784.00
24-inch Plastic Glare Shield Blades	8,922 only	11.15	99,480.30
Reflectors	2,000 only	1.40	2,800.00
Wood Lighting Poles and Arms	All Required		3,413.00
Luminares and Ballasts	All Required		742.00
Switching, Conduit, Wiring, Lamps, Etc.	All Required		4,671.00
	Subtotal		$ 134,669.30
	Engineering		13,466.70
	Total		$ 148,136.00

Length of Project - - - - - - - - - - - 4.798 Miles

Cost of Roadway Per Mile - - - - - - - $398,342.65

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway	$1,911,248.00	$1,494,400.00	$ 416,848.00
Headlight Glare Shield	148,136.00	115,800.00	32,336.00
Total	$2,059,384.00	$1,610,200.00	$ 449,184.00

Group 1 100%
Contract No. 8259
Prefix No. 26-1051

Group 1 100%
Contract No. 8355
Prefix No. 26-1066

N. E. Union Ave.-N.E. 82nd Ave. Section
Nonparticipating - State Work

State Responsibility for Damages	All Required	$ 3,000.00

8259

STATE COPY

TO BE COMPLETED BY FHWA	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	Form Approved; O M B No, 04-R2089
MONTHLY TRANSACTION NUMBER: 3-33		State: Oregon
PROJECT REPORT NUMBER:	MODIFICATION OF FEDERAL-AID PROJECT AGREEMENT	County: Multnomah
MODIFICATION NUMBER: 1	3-1-76	Project Number: U-323(27)

The Project Agreement for the above-referenced project entered into between the undersigned parties and executed by the Division Administrator on August 8, 19 75, is hereby modified as follows:

	Former amount	Revised amount
Estimated total cost of project	$ 1,748,952	$ 1,911,248
Federal funds	$ 1,367,505	$ 1,494,400
Other revisions		

This modification is made for the following reasons:

Increase in bid item quantities and approved additional items.

All other terms and conditions of the Project Agreement will remain in full force and effect. This modification is effective as of the 1st day of March, 19 76.

OREGON STATE HIGHWAY DIVISION
(Official name of Highway Agency)

By E. Z. Hunter

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
(Division Administrator)
For: G. L. Green

Form PR-2A
(Rev. 10-75)

Previous editions are obsolete

GPO 895-313

Oregon State Highway Division
Salem, Oregon, February 23, 1976

Federal-Aid Project
No. U-323(27)

N.E. UNION AVE.-N.E. 82nd. AVE. SECTION
COLUMBIA RIVER HIGHWAY
MULTNOMAH COUNTY

Revised Project Agreement Estimate.

Type Code 6201
Roadway (Sta. 22+42 to Sta. 275+70)

	Mobilization	All Required		$ 125,000.00
	Temporary Protection and Direction of Traffic	All Required		90,000.00
	Temporary Signs	1,780 sq.ft.	6.50	11,570.00
	Temporary Barricades	10 only	100.00	1,000.00
	Temporary Plastic Safety Markers	10 only	70.00	700.00
*	Flagmen	2,000 hours	16.00	32,000.00
*	Sequential Arrow Sign	2 only	3,500.00	7,000.00
	Clearing and Grubbing	All Required		10,000.00
	Removal of Structures and Obstructions	All Required		70,000.00
	Embankment in Place	3,540 cu.yd.	9.00	31,600.00
	Finishing Roadbed and Slopes	All Required		7,500.00
	Furnishing and Placing Topsoil	45 cu.yd.	12.00	540.00
	Watering	60 M-gal.	15.00	900.00
	Structure Excavation	310 cu.yd.	6.00	1,800.00
	Aggregate Shoulders	250 cu.yd.	10.00	2,500.00
*	Class "C" Asphalt Concrete Mixture	5,800 tons	14.00	81,200.00
	Class "C" Mod. Asphalt Concrete Mixture	20,000 ton	11.75	235,000.00
	Class "D" Asphalt Concrete Mixture in Leveling Course	6,000 ton	11.75	70,500.00
	Portland Cement Additive in Class "C" Mod. Mixture	200 ton	50.00	10,000.00
	Asphalt Cement in Mixture	2,050 ton	75.00	153,750.00
	Asphalt in Tack Coat	50 ton	150.00	7,500.00
	Metal Bin Type Retaining Wall, Station 97	All Required		28,000.00
	8-inch Sewer Pipe	230 lin.ft.	25.00	5,750.00
	Special Access Manhole-1	3 only	2,000.00	6,000.00
	Concrete Inlets, Type G-1	38 only	350.00	13,300.00
	Guard Rail, Type 2A	1,665 lin.ft.	8.50	14,152.50
	Guard Rail Anchors, Type 1	2 only	350.00	700.00
	Guard Rail Anchors, Type 2	3 only	300.00	900.00
	Extra for Guard Rail Bridge Connections	10 only	350.00	3,500.00
	Rail End Pieces, Type A	1 only	20.00	20.00
	Rail End Pieces, Type C	4 only	150.00	600.00

CL-4R Chain Link Fence	230 lin.ft.	7.00	
4-inch Concrete Surfacing	100 sq.yd.	11.00	1,610.00
Concrete Curbs	145 cu.yd.	197.00	1,100.00
* Concrete Barriers	28,437 lin.ft.	14.00	28,565.00
Concrete in Barriers	230 cu.yd.	165.00	398,118.00
Reinforcement in Barriers	2,550 lb.	0.50	37,950.00
Adjusting Manholes	68 only	120.00	1,275.00
Reconstructing Concrete Manholes	3 only	500.00	8,160.00
Adjusting Inlets	103 only	50.00	1,500.00
Impact Attenuators (Hi-Dro Cushion Cells)	All Required		5,150.00
Mono-Direction Crystal Type I Markers	2,620 only		16,000.00
* White Type II Markers	17,589 only	2.10	
		1.00	5,502.00
			17,589.00
Signing			
Removal of Existing Sign Installations	All Required		
Painted Wood Sign Posts	All Required		
Structure Mounts	All Required		1,000.00
Type "C" and "D" Signs in Place	1,387 sq.ft.		1,800.00
Type "H" Signs in Place	18 sq.ft.	8.50	28,200.00
Type "U" Signs in Place	60 sq.ft.	6.50	11,789.50
Move and Reinstall Existing Signs	All Required	10.00	117.00
Sign Illumination Equipment	All Required		600.00
Illumination			450.00
Foundations	4 only		1,800.00
Frangible Alluminum Transformer Bases	18 only	354.00	
Relocate Existing Light Pole to New Foundation		365.00	1,416.00
Switching, Conduit, Wiring, Lamps, Etc.	5 only		6,570.00
Signals	All Required	390.00	
Flashing Beacon Installation, Complete	All Required		1,950.00
			13,750.00
Anticipated Items			1,950.00
Railroad Protective Costs			$1,640,254.00
Permanent Pavement Striping (S.F.)	All Required		
Stage Construction Striping (S.F.)	All Required		7,000.00
Temporary Erosion Control (E.M.)	All Required		2,500.00
	All Required		1,000.00
			1,000.00

On-the-Job Trainees (3 @ $800)(E.W.)	All Required		
E.W. #1 Removal of Existing Pavement Patching			2,400.00
E.W. #2 Adjust Sprinkler System	All Required		
PA1 Amber Flashers	All Required		10,000.00
PA3 Install Telephone Conduits	22 only		10,000.00
PA4 Revise Roadway Illumination	Lump Sum	125.00	2,750.00
PA5 Temporary Protection and Direction of Traffic	Lump Sum		23,000.00
PA5 Flagmen	Lump Sum		1,100.00
PA5 Concrete Curb Removal	80 hours	16.00	2,000.00
PA5 Remove Inlet	375 lin.ft.	1.00	1,280.00
PA5 General Excavation	1 only	150.00	375.00
PA Finishing Roadbed and Slopes	600 cu.yds.	6.75	150.00
PA5 Class "C" Asphalt Concrete Mixture	Lump Sum		4,050.00
PA5 Asphalt Cement in Mixture	313 tons	17.00	2,300.00
PA5 8-inch Sewer Pipe	19 tons	79.00	5,321.00
PA5 Concrete Inlet, Type G1	15 lin.ft.	25.00	1,501.00
PA5 Concrete Curubs Type F	1 only	500.00	375.00
PA5 Salvage and Reinstall Barrier	3 cu.yds.	197.00	500.00
PA5 Concrete Barrier	100 lin.ft.	26.00	591.00
PA5 Foundation	212 lin.ft.	19.50	2,600.00
PA5 Relocate Existing Poles	2 only	365.00	4,134.00
PA5 Remove Existing Pole Bases	2 only	390.00	730.00
PA5 Wiring and Trenching	2 only	200.00	780.00
EW06 Remove Ivy Vines	300 lin.ft.	3.16	400.00
EW07 Adjust Manhole, Sta 228+00	All Required		948.00
EW08 Move Light Pole to New Base	All Required		1,159.55
EW09 Curb and Pavement Removal and Add Curb	All Required		1,000.00
SF05 Fabricate and Install Traffic Signs	All Required		600.00
	All Required		4,500.00
	All Required		1,200.00
			$ 97,244.55
	Subtotal		$1,737,498.55
	Engineering		173,749.45
	Total		$1,911,248.00

Length of Project . . . . . 4.798 Miles

Cost of Roadway Per Mile $398,342.65

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway	$1,911,248.00	$1,494,400.00	$ 416,848.00
Retain in Program			
Headlight Glare Shield	226,000.00	176,700.00	49,300.00
	$2,137,248.00	$1,671,100.00	$ 466,148.00

Group 1	100%	Group 1	100%
Contract No.	8259	Contract No.	
Prefix No.	26-1051	Prefix No.	

N.E. UNION AVE.-N.E. 82nd AVE. SECTION
NONPARTICIPATING - STATEWORK

State Responsibility for Damages	All Required	$3,000.00

8259

STATE COPY

Form Approved; O.M.B. No. 04-R2089

TO BE COMPLETED BY FHWA MONTHLY TRANSACTION NO. 8-39	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION **FEDERAL-AID PROJECT AGREEMENT** 8-8 75	STATE Oregon COUNTY Multnomah PROJECT NO. I-323(27)

The State, through its Highway Agency, having complied, or hereby agreeing to comply, with the applicable terms and conditions set forth in (1) Title 23, U.S. Code, Highways, (2) the Regulations issued pursuant thereto and, (3) the policies and procedures promulgated by the Federal Highway Administrator relative to the above designated project, and the Federal Highway Administration having authorized certain work to proceed as evidenced by the date entered opposite the specific item of work, Federal funds are obligated for the project not to exceed the amount shown herein, the balance of the estimated total cost being an obligation of the State. Such obligation of Federal funds extends only to project costs incurred by the State after the Federal Highway Administration authorization to proceed with the project involving such costs.

PROJECT TERMINI

U.S. 30, Union Ave., E. 4.8 miles (Portland)

PROJECT CLASSIFICATION OR PHASE OF WORK	EFFECTIVE DATE OF AUTHORIZATION	APPROXIMATE LENGTH *(Miles)*
HIGHWAY PLANNING AND RESEARCH (HP & R)		
PRELIMINARY ENGINEERING		
RIGHTS-OF-WAY		
CONSTRUCTION	6-4-75	4.798
OTHER *(Specify)*		

FUNDS Pro-rata 78.19%

ESTIMATED TOTAL COST OF PROJECT	FEDERAL FUNDS
$1,748,952	$ 1,367,505

The State further stipulates that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth on the reverse hereof.

Oregon State Highway Division
(Official name of Highway Agency)

By E S Hunter

Assistant State Highway Engineer
(Title)

By _____

_____
(Title)

By _____

_____
(Title)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

By _____
for G. L. Green *(Division Engineer)*

Date executed by Division Engineer _____

Form PR-2 (Rev. 4-75) PREVIOUS EDITIONS ARE OBSOLETE

AGREEMENT PROVISIONS

1. RESPONSIBILITY FOR WORK

a. Except for projects constructed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in compliance with the approved plans and specifications or project proposal which, by reference, are made a part hereof.

b. With regard to projects performed under Certification Acceptance procedures, the State highway agency will perform the work, or cause it to be performed, in accordance with the terms of its approved Certification, or exceptions thereto as may have been approved by the Federal Highway Administration.

2. HIGHWAY PLANNING AND RESEARCH (HP&R) PROJECT. The State highway agency will (a) conduct or cause to be conducted, under its direct control, engineering and economic investigations of projects for future construction, together with highway research necessary in connection therewith, pursuant to the work program approved by the Federal Highway Administration and (b) prepare reports suitable for publication of the result of such investigations and research, but no report will be published without the prior approval of the Federal Highway Administration.

3. PROJECT FOR ADVANCE ACQUISITION OF RIGHTS-OF-WAY. In the event that actual construction of a road on this right-of-way is not undertaken by the close of the tenth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

4. PRELIMINARY ENGINEERING PROJECT FOR PREPARATION OF RIGHT-OF-WAY PLANS OR FOR PREPARATION OF CONSTRUCTION PLANS, SPECIFICATIONS AND ESTIMATES. In the event that right-of-way acquisition for, or actual construction of the road for which this preliminary engineering is undertaken is not started by the close of the fifth fiscal year following the fiscal year in which this agreement is executed, the State highway agency will repay to the Federal Highway Administration the sum or sums of Federal funds paid to the highway agency under the terms of this agreement.

5. INTERSTATE SYSTEM PROJECT. (a) The State highway agency will not add or permit to be added, without the prior approval of the Federal Highway Administration any points of access to, or exit from, the project in addition to those approved in the plans and specifications for the project. (b) The State highway agency will not permit automotive service stations, or other commercial establishments for serving motor vehicle users, to be constructed or located on the right-of-way of the interstate system. (c) The State highway agency will not after June 30, 1968, permit the construction of any portion of the Interstate Route on which this project is located, including spurs and loops, as a toll road without the written concurrence of the Secretary of Transportation or his officially designated representative. The term 'toll road' does not include toll bridges or toll tunnels.

6. PROJECT FOR CONSTRUCTION IN ADVANCE OF APPORTIONMENT. (a) This project authorized pursuant to 23 U.S.C. 115 as amended, will be subject to all procedures and requirements, and conform to the standards applicable to projects on the system on which located, financed with the aid of Federal funds. (b) No obligation of previously apportioned Federal funds is created by this agreement, its purpose and intent being to provide that, upon application by the State highway agency, and approval thereof by the Federal Highway Administration, any Federal-aid funds of the class designated by the project number prefix, apportioned to the State under 23 U.S.C. 104 subsequent to the date of this agreement, may be used to reimburse the State for the Federal share of the cost of work done on the project.

7. STAGE CONSTRUCTION. The State highway agency agrees that all stages of construction necessary to provide the initially planned complete facility, within the limits of this project, will conform to at least the minimum values set by approved AASHTO design standards applicable to this class of highways, even though such additional work is financed without Federal-aid participation.

8. BOND ISSUE PROJECT. Construction, inspection and maintenance of the project will be accomplished in the same manner as for regular Federal-aid projects. No present or immediate obligation is created by this Agreement against Federal funds, its purpose and intent being to provide aid to the State, as authorized by 23 U.S.C. 122, for retiring maturities of the principal indebtedness of the bonds referred to below. When the State requests Federal reimbursement to aid in the retirement of such bonds, the request will be supported by the appropriate certification required by 23 CFR Part 140, Subpart F, and Volume 1, Chapter 4, Section 8 of the Federal-Aid Highway Program Manual or the alternative State procedure set forth in the State's Certificate, and payment of the authorized Federal share will be made from appropriate funds available. If in any year there is no unobligated balance of any apportioned Federal funds available from which payments hereunder may be made, there will be no obligation on the part of the Federal Government on account of bond maturities for that year. Funds available to the highway agency for this project are the proceeds of bonds issued by the governmental unit indicated on the attached tabulation, pursuant to the authority and in the amounts by date of issue and beginning date of maturities set forth therein.

9. SPECIAL HIGHWAY PLANNING AND RESEARCH PROJECT. The State Highway agency hereby authorizes the Federal Highway Administration to charge the State's pro rata share of costs incurred against funds apportioned to the State under 23 U.S.C. 307(c), as amended. In the event a project is financed with both Federal-aid funds and State matching funds, the State agrees to advance to The Federal Highway Administration the State matching funds for its share of the estimated cost. For a National Pooled Fund study, the State hereby assigns its responsibility for the work to the Federal Highway Administration. For an Intra-Regional Cooperative Study, the State hereby assigns its responsibility for the work to the lead State for the study.

10. PARKING REGULATION AND TRAFFIC CONTROL. The State highway agency will not permit any changes to be made in the provisions for parking regulations and traffic control as contained in the agreement between the State and the local unit of Government referred to in the paragraph on "Additional Provisions," without the prior approval of the Federal Highway Administration, unless the State determines, and the Division Engineer concurs, that the local unit of Government has a functioning traffic engineering unit with the demonstrated ability to apply and maintain sound traffic operations and control.

Oregon State Highway Division
Salem, Oregon, July 30, 1975

Federal-aid Project
No. U-323(27)

N.E. UNION AVE.-N.E. 82ND AVE. SECTION
COLUMBIA RIVER HIGHWAY
MULTNOMAH COUNTY

Project agreement estimate.

Type Code 6201
Roadway (Sta. 22+42 to Sta. 275+70)

Mobilization	All Required		$ 125,000.00
Temporary Protection and Direction of Traffic	All Required		90,000.00
Temporary Signs	1,780 sq.ft.	6.50	11,570.00
Temporary Barricades	10 only	100.00	1,000.00
Temporary Plastic Safety Markers	10 only	70.00	700.00
Flagmen	1,600 hour	16.00	25,600.00
Sequential Arrow Sign	1 only	3,500.00	3,500.00
Clearing and Grubbing	All Required		10,000.00
Removal of Structures and Obstructions	All Required		70,000.00
Embankment in Place	3,540 cu.yd.	9.00	31,860.00
Finishing Roadbed and Slopes	All Required		7,500.00
Furnishing and Placing Topsoil	45 cu.yd.	12.00	540.00
Watering	60 M-gal.	15.00	900.00
Structure Excavation	310 cu.yd.	6.00	1,860.00
Aggregate Shoulders	250 cu.yd.	10.00	2,500.00
Class "C" Asphalt Concrete Mixture	4,300 ton	14.00	60,200.00
Class "C" Mod. Asphalt Concrete Mixture	20,000 ton	11.75	235,000.00
Class "D" Asphalt Concrete Mixture in Leveling Course	6,000 ton	11.75	70,500.00
Portland Cement Additive in Class "C" Mod. Mixture	200 ton	50.00	10,000.00
Asphalt Cement in Mixture	2,050 ton	75.00	153,750.00
Asphalt in Tack Coat	50 ton	150.00	7,500.00
Metal Bin Type Retaining Wall, Station 97	All Required		28,000.00
8-inch Sewer Pipe	230 lin.ft.	25.00	5,750.00
Special Access Manhole - 1	3 only	2,000.00	6,000.00
Concrete Inlets, Type G-1	38 only	350.00	13,300.00
Guard Rail, Type 2A	1,665 lin.ft.	8.50	14,152.50
Guard Rail Anchors, Type 1	2 only	350.00	700.00
Guard Rail Anchors, Type 2	3 only	300.00	900.00
Extra for Guard Rail Bridge Connections	10 only	350.00	3,500.00

Rail End Pieces, Type A	1 only	20.00	20.00
Rail End Pieces, Type C	4 only	150.00	600.00
CL-4R Chain Link Fence	230 lin.ft.	7.00	1,610.00
4-inch Concrete Surfacing	100 sq.yd.	11.00	1,100.00
Concrete Curbs	145 cu.yd.	197.00	28,565.00
Concrete Barriers	28,025 lin.ft.	14.00	392,350.00
Concrete in Barriers	230 cu.yd.	165.00	37,950.00
Reinforcement in Barriers	2,550 lb.	0.50	1,275.00
Adjusting Manholes	68 only	120.00	8,160.00
Reconstructing Concrete Manholes	3 only	500.00	1,500.00
Adjusting Inlets	103 only	50.00	5,150.00
Impact Attenuators (Hi-Dro Cushion Cells)	All Required		16,000.00
Mono-Directional Crystal Type I Markers	2,620 only	2.10	5,502.00
White Type II Markers	13,100 only	1.00	13,100.00
Signing			
Removal of Existing Sign Installations	All Required		1,000.00
Painted Wood Sign Posts	All Required		1,800.00
Structure Mounts	All Required		28,200.00
Type "C" and "D" Signs in Place	1,387 sq.ft.	8.50	11,789.50
Type "H" Signs in Place	18 sq.ft.	6.50	117.00
Type "U" Signs in Place	60 sq.ft.	10.00	600.00
Move and Reinstall Existing Signs	All Required		450.00
Sign Illumination Equipment	All Required		1,800.00
Illumination			
Foundations			
Frangible Aluminum Transformer Bases	4 only	354.00	1,416.00
Relocate Existing Light Pole to New Foundation	18 only	365.00	6,570.00
Switching, Conduit, Wiring, Lamps, Etc.	5 only	390.00	1,950.00
Signals	All Required		13,750.00
Flashing Beacon Installation, Complete	All Required		1,950.00
			$1,576,057.00
Anticipated Items			
Railroad Protective Costs	All Required		$ 7,000.00

Permanent Pavement Striping (S.F.)	All Required	2,500.00
Stage Construction Striping (S.F.)	All Required	1,000.00
Temporary Erosion Control (E.W.)	All Required	1,000.00
On-the-Job Trainees (3 @ $800) (E.W.)	All Required	2,400.00
		$ 13,900.00
	Subtotal	$1,589,957.00
	Engineering	158,020.00
	Total	$1,748,952.00

Length of Project - - - - - 4.798 miles
Cost of Roadway Per Mile- -$364,516.88

Work Retained in Program Status

Adjust Sprinkler System (E.W.)	All Required	$ 10,000.00
Removal of Existing Pavement Patching (E.W.)	All Required	25,000.00
	Subtotal	$ 35,000.00
	Engineering	3,500.00
	Total	$ 38,500.00

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway	$1,748,952.00	$1,367,505.00	$ 381,447.00
Retained in Program	38,500.00	30,103.00	8,397.00
Total	$1,787,452.00	$1,397,608.00	$ 389,844.00

Group 1 - 100%

Contract No. 8259

Prefix No. 26-1051

N.E. UNION AVE.-N.E. 82ND AVE. SECTION
NONPARTICIPATING - STATEWORK

State Responsibility for Damages	All Required	$ 3,000.00

July 17, 1975

TO: G. L. Green, Division Engineer
Federal Highway Administration

FROM: L. W. Rullen
Project Management Engineer

SUBJECT: Project No. U-323(27)
N.E. Union Ave.-N.E. 82nd Ave.
Section

We are forwarding four copies of a project agreement and three copies of a project agreement estimate for the subject project. Three copies of the project agreement have been signed by a highway official.

Enclosure

DRH:dc

Oregon State Highway Division
Salem, Oregon, July 17, 1975

Federal-aid Project
No. U-323(27)

N.E. UNION AVE.-N.E. 82ND AVE. SECTION
COLUMBIA RIVER HIGHWAY
MULTNOMAH COUNTY

Project agreement estimate.

Type Code 6201
Roadway (Sta. 22+42 to Sta. 275+70)

Mobilization	All Required		$ 125,000.00
Temporary Protection and Direction of Traffic	All Required		90,000.00
Temporary Signs	1,780 sq.ft.	6.50	11,570.00
Temporary Barricades	10 only	100.00	1,000.00
Temporary Plastic Safety Markers	10 only	70.00	700.00
Flagmen	1,600 hour	16.00	25,600.00
Sequential Arrow Sign	1 only	3,500.00	3,500.00
Clearing and Grubbing	All Required		10,000.00
Removal of Structures and Obstructions	All Required		70,000.00
Embankment in Place	3,540 cu.yd.	9.00	31,860.00
Finishing Roadbed and Slopes	All Required		7,500.00
Furnishing and Placing Topsoil	45 cu.yd.	12.00	540.00
Watering	60 M-gal.	15.00	900.00
Structure Excavation	310 cu.yd.	6.00	1,860.00
Aggregate Shoulders	250 cu.yd.	10.00	2,500.00
Class "C" Asphalt Concrete Mixture	4,300 ton	14.00	60,200.00
Class "C" Mod. Asphalt Concrete Mixture	20,000 ton	11.75	235,000.00
Class "D" Asphalt Concrete Mixture in Leveling Course	6,000 ton	11.75	70,500.00
Portland Cement Additive in Class "C" Mod. Mixture	200 ton	50.00	10,000.00
Asphalt Cement in Mixture	2,050 ton	75.00	153,750.00
Asphalt in Tack Coat	50 ton	150.00	7,500.00
Metal Bin Type Retaining Wall, Station 97	All Required		28,000.00
8-inch Sewer Pipe	230 lin.ft.	25.00	5,750.00
Special Access Manhole - 1	3 only	2,000.00	6,000.00
Concrete Inlets, Type G-1	38 only	350.00	13,300.00
Guard Rail, Type 2A	1,665 lin.ft.	8.50	14,152.50
Guard Rail Anchors, Type 1	2 only	350.00	700.00
Guard Rail Anchors, Type 2	3 only	300.00	900.00
Extra for Guard Rail Bridge Connections	10 only	350.00	3,500.00
Rail End Pieces, Type A	1 only	20.00	20.00
Rail End Pieces, Type C	4 only	150.00	600.00

CL-4R Chain Link Fence	230 lin.ft.	8.00	1,610.00
4-inch Concrete Surfacing	100 sq.yd.	11.00	1,100.00
Concrete Curbs	145 cu.yd.	197.00	28,565.00
Concrete Barriers	28,025 lin.ft.	14.00	392,350.00
Concrete in Barriers	230 cu.yd.	165.00	37,950.00
Reinforcement in Barriers	2,550 lb.	0.50	1,275.00
Adjusting Manholes	68 only	120.00	8,160.00
Reconstructing Concrete Manholes	3 only	500.00	1,500.00
Adjusting Inlets	103 only	50.00	5,150.00
Impact Attenuators (Hi-Dro Cushion Cells)	All Required		16,000.00
Mono-Directional Crystal Type I Markers	2,620 only	2.10	5,502.00
White Type II Markers	13,100 only	1.00	13,100.00
Signing			
Removal of Existing Sign Installations	All Required		1,000.00
Painted Wood Sign Posts	All Required		1,800.00
Structure Mounts	All Required		28,200.00
Type "C" and "D" Signs in Place	1,387 sq.ft.	8.50	11,789.50
Type "H" Signs in Place	18 sq.ft.	6.50	117.00
Type "U" Signs in Place	60 sq.ft.	10.00	600.00
Move and Reinstall Existing Signs	All Required		450.00
Sign Illumination Equipment	All Required		1,800.00
Illumination			
Foundations	4 only	354.00	1,416.00
Frangible Aluminum Transformer Bases	18 only	365.00	6,570.00
Relocate Existing Light Pole to New Foundation	5 only	390.00	1,950.00
Switching, Conduit, Wiring, Lamps, Etc.	All Required		13,750.00
Signals			
Flashing Beacon Installation, Complete	All Required		1,950.00
			$1,566,307.00
Anticipated Items			
Railroad Protective Costs	All Required		$ 7,000.00
Permanent Pavement Striping (S.F.)	All Required		2,500.00
Stage Construction Striping (S.F.)	All Required		1,000.00

Temporary Erosion Control (E.W.)	All Required	1,000.00	
On-the-Job Trainees (3 @ $800) (E.W.)	All Required	2,400.00	
		$ 13,900.00	
	Subtotal	$1,580,207.00	
	Engineering	158,020.00	
	Total	$1,738,227.00	

Length of Project - - - - - 4.798 miles
Cost of Roadway Per Mile- -$362,281.57

Work Retained in Program Status

Adjust Sprinkler System (E.W.)	All Required	$ 10,000.00	
Removal of Existing Pavement			$ 3,000.00
Patching (E.W.)	All Required	25,000.00	
	Subtotal	$ 35,000.00	
	Engineering	3,500.00	
	Total	$ 38,500.00	

SUMMARY OF FUNDS

Description	Total Cost	Federal Funds	State Funds
Roadway	$1,738,227.00	$1,359,119.00	$379,108.00
Retained in Program	38,500.00	30,103.00	8,397.00
Total	$1,776,727.00	$1,389,222.00	$387,505.00

Group 1 - 100%

Contract No. 8259

Prefix No. 26-1051

N.E. UNION AVE.-N.E. 82nd AVE. SECTION

NONPARTICIPATING-STATEWORK

State Responsibility for Damages	All Required	$ 3,000.00

8957

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON, D.C. 20590

August 6, 1976
IN REPLY REFER TO:
HCP-30

Contract No.: DOT-FH-11-9127
Completion Date: October 1, 1976

Oregon Department of Transportation
State Highway Division, Room 307
Salem, Oregon 97310

Attention: Mr. R. L. Schroeder

MISC. CONTRACTS and AGREEMENTS No. 5783

Gentlemen:

Enclosed is your signed copy of the above contract recently executed with this office.

You are to proceed at once with the performance of the work under the contract which is to be completed as indicated above.

Any changes to or modification of this contract must be approved in writing by the contracting officer. Mr. Howard Bissell is the contract manager with whom you are to coordinate all technical matters. A statement of the responsibilities of the contract manager is enclosed for your information. The contract administrator for this contract is Mrs. Virginia Matthewson.

To expedite payments under this contract, please mail your invoices directly to the contract administrator at the address shown on the cover sheet.

Please insure that the enclosed poster pertaining to equal opportunity in employment is posted in a conspicuous location at your place of business.

Your particular attention is invited to Additional General Provision Number 44, "Use of Questionnaires or Survey Plans."

No information regarding this contract will be released by the contractor to the public without prior approval of the contracting officer.

NOTED
R. L. SCHROEDER

RECEIVED
AUG 11 1976
Office of
Assistant State Highway Engineer

We are pleased to have your participation in the contract activities of the Federal Highway Administration.

Sincerely yours,

N. O. Clary

N. O. Clary, Acting Chief
Services Procurement Division
Office of Contracts and Procurement

Enclosures

8-11-76
Copies to: Cowder
Hunter
Bachman
Kuehn
Zeller
Skoog

8259

August 2, 1976

Mr. Paul J. Rask
Attorney at Law
1022 Georgia-Pacific Building
Portland, OR 97204

Dear Mr. Rask:

This is to acknowledge receipt of your letter of July 27 with attached Notice of Claim of ASKA Structures, Inc., for furnishing materials in the amount of $658 plus interest.

This appears to be in connection with the K. F. Jacobsen & Co., Inc., Contract No. 8259, N. E. Union Avenue-N. E. 82nd Avenue Section in Multnomah County.

We note that you have filed copies with the Secretary of State, St. Paul Fire and Marine Insurance Company, and K. F. Jacobsen & Co., Inc., prime contractor.

Please advise this office when this claim has been satisfied.

Very truly yours,

C. W. Head
COMMISSION SERVICES

CWH:fkn

cc K. F. Jacobsen & Co., Inc.
2611 S. E. Fourth Avenue
Portland, OR 97202

St. Paul Fire & Marine Ins. Co.
500 N. E. Multnomah
Portland, OR 97232

NOTED ON CARD
8-2-76

PAUL J. RASK
ATTORNEY AT LAW
1088 GEORGIA-PACIFIC BUILDING
PORTLAND, OREGON 97204

AREA CODE 503
TELEPHONE 223-4118

July 27, 1976

Secretary of State
State of Oregon
Salem, Oregon

Re: Oregon State Project
No. 8259

Dear Sir:

Enclosed please find a Notice of Claim for filing on behalf of ASKA Structures, Inc.

Very truly yours,

PAUL J. RASK

PJR:lp
Enclosure
cc: C. W. Head
cc: K. F. Jacobson Co.
cc: St. Paul Fire & Marine Co.
cc: Safety Guard Rails Inc.
cc: Thomas Moore
cc: ASKA Structures, Inc.

RECEIVED
JUL 28 1976
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

NOTICE OF CLAIM

To: Secretary of State
State of Oregon
Salem, Oregon

-and-

To: C. W. Head
Commission Service
Oregon State Dept. of Transportation
Highway Building
Salem, Oregon 97310

RECEIVED
JUL 28 1976
COMMISSION SERVICES
DEPARTMENT OF TRANSPORTATION

Re: Oregon State Project
No. 8259

Notice is hereby given that the undersigned ASKA Structures, Inc., 3094 S. E. Tualatin Valley Hwy., Hillsboro, Oregon 97123, has a claim for furnishing materials for sign brackets for sign No. 51 at N. E. Union Avenue - N. E. 82nd Avenue Section, 39th and Halsey East bould per Oregon State Highway drawing E-706, furnished and performed by ASKA Structures, Inc., 3094 S. E. Tualatin Valley Hwy., Hillsboro, Oregon, in the sum of $658.00 plus interest at the rate of 1% per month from April 24, 1976 (30 days after which final payment was due), against the bond taken from K. F. Jacobson & Co., Inc., 2611 S. E. 4th Avenue, Portland, Oregon, and St.Paul Fire & Marine Insurance Company, 500 Lloyd Building, Portland, Oregon. Highway construction - N. E. Union Avenue to N. E. 82nd Avenue.

General Contractor: K.F. Jacobson Company- Inc.
2611 S. E. 4th Avenue
Portland, Oregon 97202

Subcontractor: Safety Guard Rails, Inc.
P. O. Box 317
Hillsboro, Oregon 97123

ASKA STRUCTURES, INC.

By: _____
Larry Smith,
President

FORM E-1 (REV. 12-68)

OREGON STATE HIGHWAY DEPARTMENT

FIELD ENGINEER'S WEEKLY REPORT

FOR CONSTRUCTION PROJECTS ONLY
CONSTRUCTION AND BRIDGE DIVISIONS

SECTION: NE UNION - 82nd AVES.	WEEK ENDING: JULY 9, 1976	
	SECTION PREFIX: 26-1051	
HIGHWAY: COLUMBIA RIVER	COUNTY: MULTNOMAH	
NAME OF JOB: NE UNION - 82nd AVES.	KIND OF WORK: GRADING, PAVING, BARRIER, SIGNING & ILLUMINATION	
CONTRACTOR: K.F. JACOBSEN & CO.	CONTRACT NUMBER: 8259	FEDERAL AID PROJECT NUMBER: U-323(27)
DATE OF CONTRACT: JULY 2, 1975	DATE WORK STARTED: JULY 28, 1975	(A) SEPTEMBER 26, 1975 (B) JUNE 17. 1976
AVERAGE FORCE ON PROJECT FOR THE WEEK: MEN: 4 SUPERVISION: 1	SPECIFIED CALENDAR DAYS (A)=60	CALENDAR DAYS USED (A) 60
	SPECIFIED CALENDAR DAYS (B)=190	CALENDAR DAYS USED (B) 190
		PERCENT OF TIME ELAPSED (A) 100.0 % (B) 100.0 %
PROJECT AUTHORIZATION: $1,831,451.63		PERCENT OF CONTRACT COMPLETED BASED ON ESTIMATED COST: 98.4 %
EXCLUSIVE OF ENGINEERING: $1,701,215.07	ENGINEERING AUTHORIZATION $130,236.56	
ESTIMATED COST OF COMPLETED PROJECT, EXCLUSIVE OF ENGINEERING: $1,854,936.77	ENGINEERING COST TO DATE $200,000.00	PERCENT OF CONTRACT COMPLETED BASED ON TOTAL AUTHORIZATION: 107.3 %
ESTIMATED PERCENT: OVERRUN 9.17%	PERCENT OF AUTHORIZATION 153.57%	DATE PROJECT WAS COMPLETED: JUNE 17, 1976

ESTIMATED PERCENT COMPLETE (ROADWORK)

CLEARING	DRAINAGE	GRADING	D-MIX	C-MIX	TP&D	GUARDRAIL	
100	100	100	100	100	100	100	

	D-MIX	C-MIX			
MILES IN PROJECT	4.88	4.88			
MILES PARTIALLY COMPLETED					
MILES COMPLETED					
TOTAL ESTIMATED QUANTITIES (CONTRACT)	6.000 T	24,300 T			
TOTAL QUANTITIES CORRECTED TO DATE	3,988 T	26,384 T			
ESTIMATED QUANTITIES MOVED OR PLACED TO DATE	3,988 T	26,400 T			
AVERAGE DAILY QUANTITIES					
AVERAGE DAILY QUANTITIES NECESSARY TO COMPLETE PROJECT ON TIME					
NUMBER OF SHIFTS PER DAY: 1					
HOURS PER SHIFT: 8					

EQUIPMENT USED DURING THE WEEK:

2-pickup trucks, 1-flatbed truck

ESTIMATED PERCENT COMPLETE (STRUCTURES)

BRIDGE NO.	BIN WALL	SURFACE	CURB	BARRIER	MARKER	ATTEN.	SIGNS	ILLUM.
PERCENT	100	100	100	100	100	100	100	100

	WEATHER	CALENDAR DAYS CHARGED	HOURS DELAY	CAUSE OF DELAY
SUNDAY	Showers	0		
MONDAY	Fair	0		
TUESDAY	Ptly Cldy	0		
WEDNESDAY	Rain	0		
THURSDAY	Ptly Cldy	0		
FRIDAY	Cloudy	0		
SATURDAY				

Routing
Keasey
Bond
Jackmond
Harwood
Johnsen
Walker
Richards
Glenn
Berg

RECEIVED
JUL 12 1976
CONSTRUCTION
SECTION

BEN GIFFORD

GENERAL DESCRIPTION OF ACTIVITIES FOR THE WEEK	
JULY 4 SUNDAY	NO ACTIVITY
JULY 5 MONDAY	NO ACTIVITY
JULY 6 TUESDAY	NO ACTIVITY
JULY 7 WEDNESDAY	OLSEN: Repaired Illumination Circuts At 33rd. And 42nd Ave. JACOBSEN: Traffic Control. And Patched Median At 33rd Ave.
JULY 8 THURSDAY	JACOBSEN: Traffic Control And Patched Median At 33rd Ave.
JULY 9 FRIDAY	NO ACTIVITY
JULY 3 SATURDAY	NO ACTIVITY

REMARKS

SUMMARY: Contractors doing misc. cleanup work.

ANTICIPATED: TRAFFIC will install misc. traffic buttons.
JACOBSEN will continue misc. patching and traffic control.
Complete misc. cleanup and have Final Inspection.

No further weekly reports will be submitted for this project.

FINAL WEEKLY REPORT

SIGNED Jerry C. Street LOCATION PORTLAND
JERRY C. STREET, RESIDENT ENGINEER

PRIME RESIDENT SUBMIT 2 COPIES. WHEN BRIDGES AND GRADING BOTH ARE INVOLVED, SUBMIT 3 COPIES.

8259

ROBERT W. STRAUB
GOVERNOR

OREGON STATE
HIGHWAY DIVISION

METROPOLITAN SECTION • 5821 N.E. GLISAN • PORTLAND, OREGON 97213
Telephone 238-8226

July 9, 1976

W. BURTON FERGUSON
333 Southwest Fifth
Portland, OR 97204

Please excuse the delay in answering your letter to Mayor Neil Goldschmidt concerning the violation of the high occupancy vehicle lanes on the Banfield Freeway, but I have just recently received it.

I share your concern about the violation rate of the HOV lane and would like to take this opportunity to tell you what is being done about it. In December 1975 when the HOV lanes were opened, approximately 50 percent of the people using the lanes were in violation of the three occupant rule. Through the use of their regular patrols on the Banfield, the State Police were able to reduce this violation rate to 32 percent in January and 27 percent in February. It appeared we were on the right track.

In March the violation rate climbed to 31 percent and in April, about the time you wrote the letter to Mayor Goldschmidt, to 43 percent. At that time we met with the State Police and asked for a concentrated effort on the freeway to reduce this violation rate. We also felt that a show of strength was necessary to get the violators out of the HOV lanes.

The police gave excellent cooperation and were able to concentrate eight police cars on the Banfield three times a week. The violation rate for May dropped to 25 percent and in June to 17 percent. This, we feel, is tolerable. The police have now issued over 2,000 citations for violation of the HOV lanes.

We are monitoring the traffic speeds, lane use, violation rate, accident rate, and air pollution along the freeway in order to determine what effect this experimental project has on the traffic flow. So far it looks pretty positive. The average speeds during the peak hours have increased. The legal use of the HOV lane is slowly climbing and the bus ridership on the Flyers is increasing.

Thank you for writing. We appreciate hearing from the public who use the highway facilities. Please feel free to drop me a line anytime you have comments or questions.

RECEIVED
DOT OPERATIONS
JUL 12 '76
REFER TO
FOR

ROBERT N. BOTHMAN
Asst. State Highway Engineer

NOTED
F. B. KLABOE

mb

cc: Mayor Goldschmidt
F. B. Klaboe
H. S. Coulter
E. L. Hardt

J. Dunon Ferguson
333 N.W. 5th St.
Portland, Oregon
97204

4/20/76

The Honorable Neil Goldschmidt,
Mayor
1220 S.W. 5th Street
Portland, Oregon

RECEIVED
APR 21 1976
MAYOR'S OFFICE

Dear Mr. Mayor,

It would be a surprise if your office were by now not inundated by complaints about the new third lane of the Sandfield free-way, with particular respect to the unchallenged cheating on the third lane corridor. Day after day after day one finds, between

Some inexplicable reason, the worst offenders appear to be young, college level, women, & pick up truck drivers x for two successive mornings, I've been tailgated by cars w/ single occupant women who appear in a big hurry x 2 of us were in the right lane, I had 3 passengers, she had one x

The point I attempt to make is, either police the violators or eliminate the special lane x 4

6 A.M. x 10 A.M. / 3 P.M. x 1 P.M. Hours / Days

One occupant cars usurping (hogging) the fund lane x the offenders are not molested

because there are no police, or so few that violations blatantly encroach x for the last five days, during the heavies rush period, I have traversed the entire westbound corridor without seeing a police car — not one! Single occupants know the pattern and ignore the lane prohibition x for

The current condition is a joke x

One suggestion, if you please: The attitude might change if the city would make a concerted show of strength for about 10 days x You could turn some revenue in the dozens of tickets {inevitable} while stopping the charade x

Very truly yours,

H. B. Stephen

8254

July 6, 1976

Mr. N. O. Clary, Acting Chief
Office of Contracts and Procurements
Federal Highway Administration
400 Seventh Street SW, Room 4410
Washington, DC 20590

Dear Mr. Clary:

Preferential Lanes for High-
Occupancy Vehicles
Banfield Freeway - Portland, Oregon
HCP-30

As indicated in your letter of July 2, 1976, enclosed are three signed copies of the proposed contract entitled "Evaluation of Preferential Lanes for High Occupancy Vehicles on the Banfield Freeway, Portland, Oregon".

Thank you for your prompt attention and approval of this worthwhile study. I am certain that useful data will be forthcoming not only to the State of Oregon and U. S. Department of Transportation, but to other states as well.

Very truly yours,

ORIGINAL SIGNED
R. L. SCHROEDER

R. L. Schroeder
Assistant State Highway Engineer

RLS:ab
Enclosures
cc Dr. W. W. Wolman
G. L. Green
bc H. S. Coulter
E. S. Hunter
R. N. Bothman
L. W. Rulien
G. A. Potter
V. E. Skoog
C. W. Head

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON, D.C. 20590

July 2, 1976
IN REPLY REFER TO:
HCP-30

Oregon Department of Transportation
State Highway Division
Room 307
Salem, Oregon 97310

Attention: Mr. R. L. Schroeder

Gentlemen:

Enclosed for your approval and signature are four copies of a proposed contract entitled "Evaluation of Preferential Lanes for High Occupancy Vehicles on the Banfield Freeway, Portland, Oregon."

Please have three copies signed by an authorized member of your organization and return them at your earliest convenience to the Office of Contracts and Procurement. You may retain the fourth copy for your files.

Following execution of the proposed procurement action by the contracting officer, we will provide you with a fully executed document for your records.

Sincerely yours,

for N. O. Clary, Acting Chief
Services Procurement Division
Office of Contracts & Procurement

Enclosures

NOTED
R. L. Schroeder

RECEIVED
JUL 6 1976
Office of
Assistant State Highway Engineer

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

PAGE 1 OF 8 PAGES

NEGOTIATED CONTRACT

EFFECTIVE DATE

REQ. NO. OR OTHER PURCHASE AUTH.	NEGOTIATED PURSUANT TO	CONTRACT NO.
41-30-6087 (RFP-539-6) Office of Research	23 USC 307(a)	

ISSUED BY:
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Office of Contracts and Procurement
Washington, D. C.

MAIL INVOICES TO:
U.S. Department of Transportation
Federal Highway Administration
Office of Contracts and Procurement
Washington, D. C. 20590

CONTRACTOR *(Name and address)*
Oregon Department of Transportation
State Highway Building, Room 307
Salem, Oregon 97310

PAYMENT WILL BE MADE BY:
Federal Highway Administration
Finance Division
Washington, D. C. 20590

OFFICE OF TECHNICAL ADMINISTRATION AND NAME OF CONTRACT MANAGER
Federal Highway Administration
Office of Research
Traffic Systems Division
Washington, D. C. 20590

COMPLETION DATE OR PERIOD OF PERFORMANCE
See Article IV - PERIOD OF PERFORMANCE

ACCOUNTING AND APPROPRIATION DATA
942-41-33-13-6087-32D1-6-2582

The contractor agrees to perform all the services set forth in the attached schedule, for the consideration stated therein. The rights and obligations of the parties to this contract shall be subject to and governed by the schedule and the general provisions. To the extent of any inconsistency between the schedule or the general provisions and any specifications or other provisions which are made a part of this contract, by reference or otherwise, the schedule and the general provisions shall control; to the extent of any inconsistency between the schedule and the general provisions, the schedule shall control.

THE TOTAL AMOUNT OF THIS CONTRACT IS $ 149,975 (See Article V - Consideration and Payment)

NAME OF CONTRACTOR		UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
Oregon Department of Transportation			
BY *(Signature of authorized individual)*	**DATE**	**BY** *(Signature of contracting officer)*	**DATE**
E S Hunter	7-6-76		
TYPED NAME		**TYPED NAME OF CONTRACTING OFFICER**	
E. S. Hunter		N. O. Clary	
TITLE		**TITLE**	
Acting State Highway Engineer		Acting Chief Services Procurement Division Office of Contracts & Proc.	

Form FHWA-1232 (Rev. 4-72) Previous edition may be used.

This contract consists of: cover page (Form 1232, Negotiated Contract), the schedule, 7 pages; the General Provisions as listed in Article XIII; "Format and Distribution Requirements for DOT Scientific and Technical Reports" (DOT-TST-72-1) and "Repro Copy Requirements for Technical Reports," issued by the FHWA Offices of Research and Development, dated June 1973; and FHWA Billing Instructions for Cost Reimbursement Contracts.

This contract has been executed under authority of 23 USC 307 (a).

It has been determined that the work and services called for hereunder will be advantageous to the Government and that the existing facilities of the Government are not adequate to perform such services.

ARTICLE I - STATEMENT OF WORK

The contractor shall furnish all necessary facilities, materials, and personnel and shall perform all services necessary to conduct--in consultation with the Government--a study entitled "Evaluation of Preferential Lanes for High Occupancy Vehicles on the Banfield Freeway, Portland, Oregon."

See Enclosure No. 1 for Statement of Work.

ARTICLE II - REPORTS

1. The contractor shall furnish to the contract manager six copies of a quarterly letter-type progress report on or before the 15th of the month following the period being reported. Each report shall cover the staff activities relevant to the study for the period being reported including:

a. Progress during the reporting period in achieving the objectives of the Statement of Work.

b. Identification of any problems or delays encountered that would affect the completion of the contract within the time and money constraints set forth in the contract.

c. A bar chart comparing actual costs and time elapsed with scheduled time and cost expenditures.

d. Work planned for the subsequent period.

The contractor shall furnish a copy of each quarterly report to the contacting officer.

2. The contractor shall furnish to the contract manager one copy of the following documents developed under this contract:

a. Ongoing graphing of all collected data to assist in revealing questionable trends.

b. A procedural manual for mointoring each separate air quality pollutant developed to ensure consistency in the collecting process.

3. The contractor shall furnish six copies of a draft final report to the contract manager 60 days prior to the completion of the contract. The draft final report shall document the findings of all tasks and provide a chronological description of the changes in freeway operation, enforcement intensity, safety features, freeway usage aids, and bus schedules throughout the evaluation period. These characteristics shall be correlated with the trend indicators. Intercorrelation of various indicators shall be accomplished to analyze cause and effect relationships.

The contractor shall furnish the contracting officer a copy of the draft final report. The Government shall review the draft final report and furnish comments thereon to the contractor within 30 days following receipt of the draft final report. The contractor shall consider the comments in preparing the final report.

4. The final report shall be prepared in accordance with "Format and Distribution Requirements for DOT Scientific and Technical Reports" (DOT-TST-72-1) and "Repro Copy Requirements for Technical Reports," issued by the FHWA Offices of Research and Development, dated June 1973.

5. The contractor shall furnish to the contracting officer the final report, in reproducible copy as defined in paragraph 4 above, on or before the completion date of the contract. Approval of the final report shall be provided in writing by the contracting officer.

6. All reports or other documentation relative to this research and development shall provide units of measurement in the English System with their SI (metric system) equivalents given in parentheses except for tables of numerical data. Tables containing numerical data may use English System units, but shall include SI (metric system) conversion factors in the footnotes to the tables.

ARTICLE III - PROPRIETARY RIGHTS IN REPORTS

All property rights, including publication rights, in the progress and final reports produced by the contractor in connection with the study provided for hereunder shall vest in the Federal Highway Administration. The contractor shall not publish any of the results of the study provided for hereunder without the express written permission of the contracting officer.

ARTICLE IV - PERIOD OF PERFORMANCE

All work and services required hereunder including submission of the final report shall be completed on or before 24 months after the effective date of the contract.

(Continued on Page 5)

ARTICLE V - CONSIDERATION AND PAYMENT

1. The contractor may be reimbursed for direct and indirect costs incurred in the performance hereof as are allowable under the provisions of Subpart 1-15.7 of the Federal Procurement Regulations. The total cost of this project is not to exceed three hundred fifty-three thousand nine hundred and fifty-five dollars ($353,955) which will be jointly shared by the parties, with the Federal Highway Administration's share being one hundred forty-nine thousand nine hundred and seventy-five dollars ($149,975) and the Oregon Department of Transportation's share being two hundred three thousand nine hundred and eighty dollars ($203,980). The direct costs eligible for payment under the FHWA's share are limited to one hundred nineteen thousand one hundred and thirty-four dollars ($119,134) unless otherwise authorized by the contracting officer.

2. The General Provision entitled "Limitation of Cost" applies to this contract. In the event that the contract is not funded beyond the estimated cost set forth in the schedule, the contractor shall deliver to the Federal Highway Administration the data collected and the material produced or in process or acquired in connection with the performance of the project provided herein together with a summary report in five copies on the contractor's progress and accomplishment to date which is satisfactory to the contracting officer.

3. At the request of the contractor, quarterly payments may be made on the basis of costs incurred up to 95 percent of the maximum amount shown in paragraph 1. above. Five percent of costs incurred or $5,000, whichever is less, will be withheld until such time as a determination is made that all contract requirements have been achieved. Each invoice shall be supported by a statement of costs incurred by the contractor in the performance of this contract and claimed to constitute allowable costs. Any payments hereunder will be made upon determination by the contracting officer that the requirements of the contract are being met. Final payment, shall be made upon his determination that all requirements of the contract have been completed.

Form FHWA-94
(Rev. 8-68)

SCHEDULE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

CONTRACT NO. DOT-FH-11-

PAGE NO 6

ARTICLE VI - OVERHEAD

Pending the establishment of final overhead rates which shall be negotiated based on audit of actual costs as provided in Subpart 1-15.7 of the Federal Procurement Regulations, the contractor shall be reimbursed for allowable indirect costs hereunder at the provisional rate of 33.5 percent of the total salary and wages herein reimbursed, excluding overtime.

(Continued on Page 7)

Existing stocks of FH-24 (4-67) will be used.

Form FHWA-24
(Rev. 8-68)

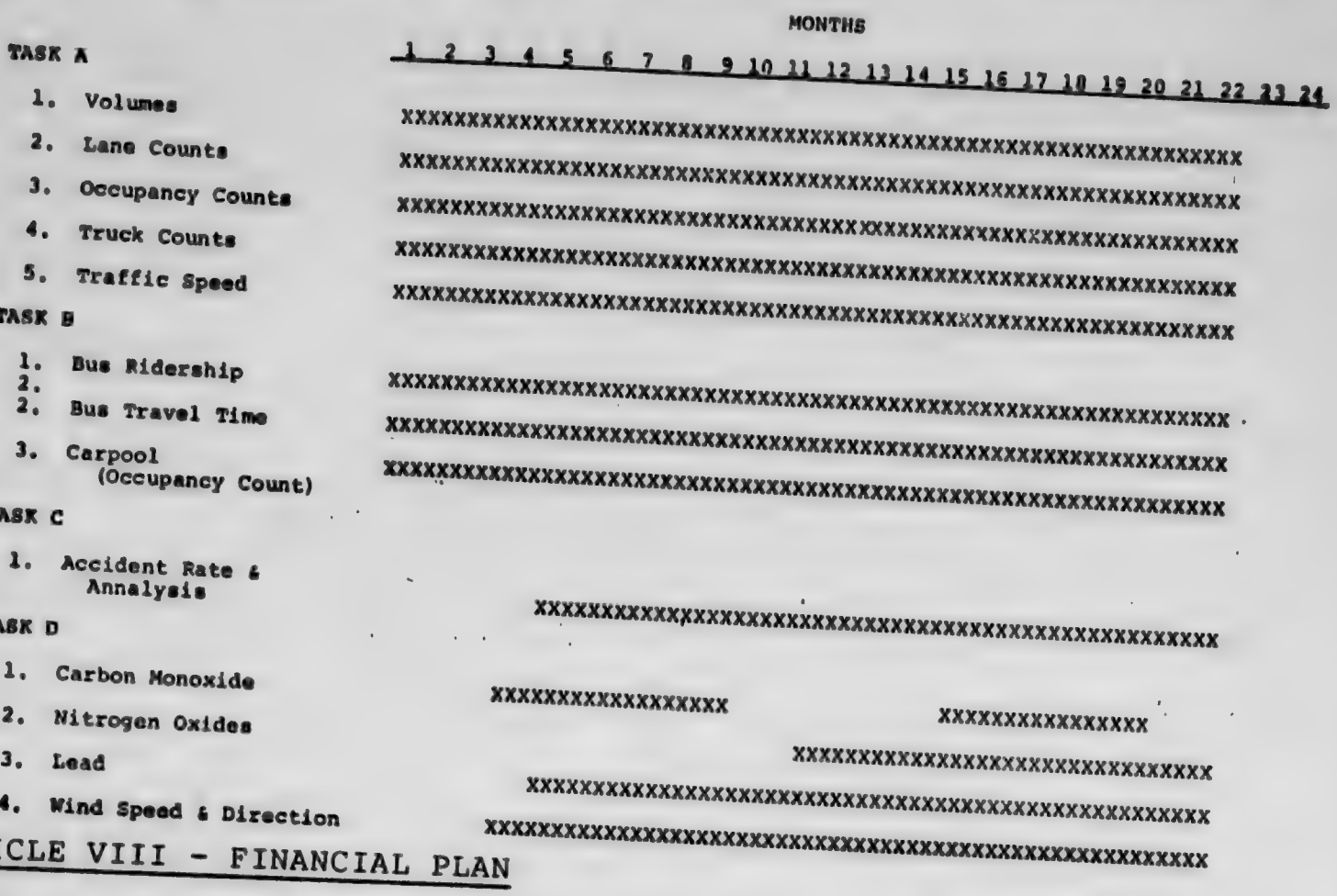
SCHEDULE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

CONTRACT NO. DOT-FH-11-

ARTICLE VII - SCHEDULE OF WORK

All tasks set forth in the Statement of Work shall be performed in accordance with the work schedule shown below. Performance shall begin on the effective date of the contract.


MONTHS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
TASK A
1. Volumes
2. Lane Counts
3. Occupancy Counts
4. Truck Counts
5. Traffic Speed
TASK B
1. Bus Ridership
2. Bus Travel Time
3. Carpool (Occupancy Count)
TASK C
1. Accident Rate & Annalysis
TASK D
1. Carbon Monoxide
2. Nitrogen Oxides
3. Lead
4. Wind Speed & Direction

ARTICLE VIII - FINANCIAL PLAN

The estimated funds necessary for the completion of this requirement in accordance with the schedule set forth in ARTICLE VII are as follows:

	FHWA	Oregon DOT	Total
Task A	$84,437	$94,038	$178,475
Task B	16,532	8,856	25,388
Task C	5,961	4,211	10,172
Task D	43,045	96,875	139,920
Total	$149,975	$203,980	$353,955

Existing stocks of FH-24 (4-67) will be used.

SCHEDULE

ARTICLE IX - KEY PERSONNEL

The contractor shall assign Mr. Max Klotz as principal investigator. In the event the principal investigator's activities are terminated by the contractor or he is incapacitated due to illness or injury during the performance of this contract, the appointment of his replacement shall be subject to the prior approval of the Federal Highway Administration contract manager, through the contracting officer.

ARTICLE X - PROFESSIONAL STAFFING

The contractor agrees to assign the following professional staffing to this contract work. They are to be assigned to the level of effort indicated. In the event the contractor finds it necessary to replace any of the assigned personnel during the performance of the contract, the appointment of his replacement shall be subject to the prior approval of the FHWA contract manager, through the contracting officer.

	Task A	Task B	Task C	Task D	Total
Mr. Max Koltz	.7	.2	.4	.7	2
Mr. Jerry Street	2.1	2.1	1.05	1.75	7
Mr. Bill McConnel	14.5	3.5	1.5	3.5	23
Mr. Jef Kaiser	.9	.25	.1	2.75	4

Note: All times are given in man-months.

ARTICLE XI - CERTIFICATION OF NONSEGREGATED FACILITIES

The contractor certifies that he does not maintain nor provide for his employees facilities which are segregated on the basis of race, color, religion, or national origin, whether such facilities are segregated by directive or on a de facto basis. Further, the contractor agrees that he will not maintain such segregated facilities.

ARTICLE XII - GENERAL PROVISIONS

The attached Department of Transportation General Provisions, DOT P-3 dated June 2, 1972, and FHWA Additional General Provisions for P-3 dated July 11, 1974 are applicable to this contract.

Statement of Work for the Study Entitled

"Evaluation of Preferential Lanes for High Occupancy Vehicles on the Banfield Freeway, Portland, Oregon"

Objective

The purpose of this study is to determine the effects of modifying a four lane divided freeway with shoulders into a six lane divided freeway without shoulders but which has emergency turnout bays and has the median lane restricted to buses and other vehicles which carry three or more persons.

Scope

The measures of effectiveness to evaluate the results from the changes on the Banfield Freeway include collecting data on:

A. Traffic flow characteristics
B. Transit and carpool usage
C. Safety
D. Air quality

The monitoring effort will span a two year period terminating January 1, 1978.

In order to conduct the evaluation study, the following tasks shall be conducted:

Task A - Analyze Traffic Flow Characteristics

Collect data and analyze the data to determine the following:

- The change in vehicle occupancy rates (excluding buses)
- The change in peak-hour average speeds on the Banfield and on parallel arterials
- The change in peak volumes on the Banfield and on the parallel arterials. Volumes will be broken down by lane and separated into number of people and number of vehicles
- The change in the High Occupancy Vehicles (HOV) lane violation rate
- The change in the number of trucks using the parallel arterial streets as compared to the Banfield
- The effect of fuel price change on HOV lane use.

In order to collect the required data, a traffic data collection program shall consist of the following:

1. Volumes (total)

   a. Banfield Freeway - One continuous counter for all lanes has been permanently installed at the western terminus of the westbound HOV lane.

   b. Freeway Ramps - Traffic loops have been cut in existing ramps for the length of the project (Figure No. 1). Counters are circulated among these ramps to obtain a one week per month count for each loop.

   c. Arterial Streets - Traffic loops have been cut in three arterial streets which parallel the Banfield and may incur traffic volume changes as a result of the HOV lane (Figure No. 1). These loop sites correspond with the location of arterial street carbon monoxide monitoring stations (D-1). A one week per month count will be taken at each site.

2. Lane Counts - Lane counts are taken manually at two locations on the freeway, three days each month, at 6-9 a.m. westbound and 3-6 p.m. eastbound.

3. Truck Counts

   a. Freeway - Numbers of trucks are counted one day each month at a point mid-distant along the project length.

   b. Arterial Streets - Number of trucks are counted one day each month on each of the three parallel arterial streets.

4. Traffic Speed

   a. Freeway - Floater cars are used to determine average traffic speeds between six check points along the freeway in both the restricted and nonrestricted lanes. The runs are made three days each month at 6-9 a.m. westbound and 4-7 p.m. eastbound.

   b. Arterial Streets - Average traffic speeds are taken at three arterial street locations where traffic counters and air sampling stations are located. Floater cars are used. Each location is sampled one weekday per month during the peak hour, and the days selected are consistant with the traffic volume and air sampling schedules.

5. Vehicle Occupancy - Occupancy counts, for non-bus vehicles, are made on three consecutive weekdays per month on the Banfield, during peak-hour operation. A count for each lane is taken. Occupancy counts for non-bus vehicles are also taken during the peak hours, one day per month, on a freeway corridor similar in situation to the Banfield for comparison. The freeway which was selected is the Sunset Highway located in Southwest Portland.

Task B - Analyze Transit and Carpool Use

Collect data and analyze the data to determine the following:

- o The change in bus patronage as a result of the project.
- o The change in carpool usage on the Banfield
- o The effect of parking rate change, within the CBD, on transit and carpool usage.

In order to collect the required data, the following data collection program shall be used:

1. Bus Ridership

   a. The regional transit agency, Tri-Met, is providing daily ridership counts for the "Banfield Flyers" (special peak-hour express runs), and monthly ridership counts for all other Tri-Met buses.

   b. One-day-per-month occupancy estimates are being made by a lane observer for non-Tri-Met buses using the HOV lane during the peak hour.

   c. One-day-per-month occupancy estimates are being made by a remote observer for all buses traveling in a corridor similar to the Banfield (Sunset Highway) during peak hours.

2. Bus Travel Time - Monthly time runs are made for the "Banfield Flyers."

3. Carpool Use - Changes in the number of carpools are monitored by vehicle occupancy counts (A-5).

4. Banfield-User Character and Attitude - An annual survey will be distributed by mail throughout the Banfield service area to

determine origin and destination, user attitude, mode preference, and basic user characteristics necessary to evaluate operational policies.*

*Note - No mention that the Federal Government is involved in funding this study shall appear on the survey questionnaire.

Task C - Analyze Safety Information

This task shall determine the change in the rate and nature of vehicular accidents occurring within the project section. In order to determine this, a biannual analysis of traffic accident data occurrences within the project corridor shall be made to determine the nature and cause of each vehicular conflict. During the first three months of HOV lane operation, a copy of each accident report received by the state Motor Vehicles Division was forwarded to the Highway Division. This enabled the Highway Division to closely scrutinize accident patterns and causes so that operational response time to safety hazards would be minimal. Time and expense precluded continuing this effort throughout the two year program.

Task D - Analyze Air Quality Data within the Freeway Corridor to Determine:

- The change in ambient levels of carbon monoxide within the project corridor and along parallel arterials; hourly changes as well as daily and monthly changes will be monitored.
- The change in ambient levels of oxides of nitrogen and lead as they affect the closest downwind, sensitive receptor to project corridor emissions..

In order to collect the required data, the following data collection program shall be conducted:

1. Carbon Monoxide - Sequential air samplers are installed at six locations (Figures No. 1). Two sites are located directly adjacent to and downwind of the freeway travel lanes; one site occurs about 400 feet downwind of the freeway, up out of the depressed Banfield corridor; and three sites are located along arterial streets, paralleling the Banfield, which may incur traffic volume changes as a result of the HOV lanes. Sampling will occur twice a week on randomly selected nonconsecutive days with all sites being sampled simultaneously. A sampling period will be from 6 a.m. to 6 p.m. and will be comprised of 12 one hour samples.

   Carbon monoxide concentration in each bag sample is measured by use of a portable field CO analyzer (Ecolyzer).

2. Nitrogen Oxides - A continuous chemiluminescent analyzer will be installed at a site about 400 feet downwind of the freeway up out of the depressed freeway corridor (Figure No. 1). The analyzer will be housed in an environmentally controlled trailer. NOx monitoring is expected to begin April 15, 1976.

3. Lead - A HI-VOL sampler is located at the same site as described for the nitrogen oxides monitoring system. Two 24 hour samples per week are obtained.

4. Wind Direction and Speed - An automatic weather station has been located in the vicinity of the air sampling sites (Figure No. 1). Wind speed and direction are continually recorded on a chart roll.

Supplementary Notes to the Statement of Work

1. During the progress of this study, the following items shall be developed or provided:

   a. Ongoing graphing of all collected data shall be done to assist in revealing questionable trends.

   b. A procedural manual for monitoring each separate air quality pollutant shall be developed to ensure consistency in the collecting process.

   c. Assigned specialists shall review all incoming raw data.

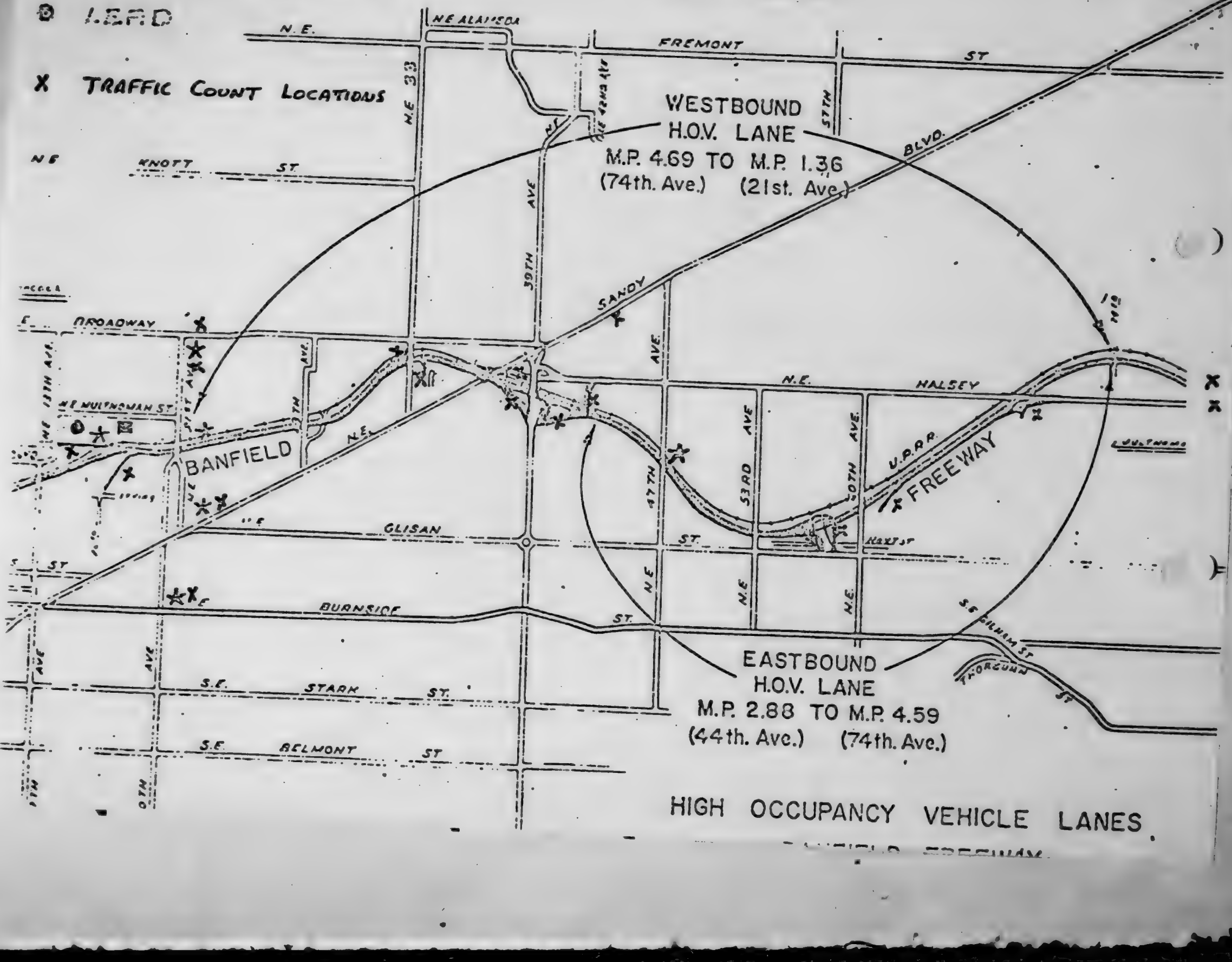
   d. A technical advisory committee for the Banfield project should periodically review the data in a plotted form. (Mr. C. T. Christienson of the FHWA Oregon Division Office should be included on the technical advisory committee.)

MONITORING STATIONS

* CARBON MONOXIDE
■ NITROGEN OKIDES
◎ LEAD

X TRAFFIC COUNT LOCATIONS

FIGURE 1



HIGH OCCUPANCY VEHICLE LANES

DOT P-3
JUNE 2, 1972

DEPARTMENT OF TRANSPORTATION

GENERAL PROVISIONS FOR COST-REIMBURSEMENT TYPE RESEARCH AND DEVELOPMENT CONTRACTS

(Commercial Organizations)

Clause No.	Clause Title
1.	DEFINITIONS
2.	CHANGES
3.	LIMITATION OF COST
4.	ALLOWABLE COST, FIXED FEE, AND PAYMENT
5.	INSPECTION
6.	DISPUTES
7.	UTILIZATION OF MINORITY BUSINESS ENTERPRISES
8.	UTILIZATION OF SMALL BUSINESS CONCERNS
9.	UTILIZATION OF LABOR SURPLUS AREA CONCERNS
10.	COMPETITION IN SUBCONTRACTING
11.	ASSIGNMENT OF CLAIMS
12.	CONVENANT AGAINST CONTINGENT FEES
13.	CONVICT LABOR
14.	OFFICIALS NOT TO BENEFIT
15.	WALSH-HEALEY PUBLIC CONTRACTS ACT
16.	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT--OVERTIME COMPENSATION
17.	EQUAL OPPORTUNITY
18.	BUY AMERICAN ACT
19.	DISSEMINATION OF CONTRACT INFORMATION
20.	NOTICE OF DELAYS
21.	GRATUITIES
22.	PRIORITIES, ALLOCATIONS, AND ALLOTMENTS
23.	NEW MATERIALS
24.	INTERPRETATION OR MODIFICATION
25.	INSURANCE--LIABILITY TO THIRD PERSONS
26.	EXCUSABLE DELAYS
27.	EXAMINATION OF RECORDS BY COMPTROLLER GENERAL
28.	AUDIT AND RECORDS
29.	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA
30.	SUBCONTRACTOR COST AND PRICING DATA
31.	NEGOTIATED OVERHEAD RATES
32.	PAYMENT FOR OVERTIME PREMIUMS
33.	GOVERNMENT PROPERTY
34.	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
35.	PATENT RIGHTS (TITLE)
36.	BACKGROUND PATENTS (LICENSE)
37.	RECOVERY OF DEVELOPMENTAL COSTS
38.	SUBCONTRACTS
39.	TERMINATION FOR DEFAULT OR FOR CONVENIENCE OF THE GOVERNMENT
40.	LISTING OF EMPLOYMENT OPENINGS
41.	AUTHORIZATION AND CONSENT

1. DEFINITIONS

As used throughout this contract, the following terms shall have the meanings set forth below:

(a) The term "head of the agency" or "Secretary" as used herein means the Secretary, the Under Secretary, any Assistant Secretary, or any other head or assistant head of the executive or military department or other Federal agency; and the term "his duly authorized representative" means any person or persons or board (other than the Contracting Officer) authorized to act for the head of the agency or the Secretary.

(b) The term "Contracting Officer" means the person executing this contract on behalf of the Government, and any other officer or civilian employee who is a properly designated Contracting Officer; and the term includes, except as otherwise provided in this contract, the authorized representative of a Contracting Officer acting within the limits of his authority.

(c) Except as otherwise provided in this contract, the term "subcontracts" includes purchase orders under this contract.

2. CHANGES

(a) The Contracting Officer may at any time, by a written order, and without notice to the sureties, if any, make changes, within the general scope of this contract, in any one or more of the following:

(i) drawings, designs, or specifications;
(ii) method of shipment or packing; and
(iii) place of inspection, delivery, or acceptance.

(b) If any such change causes an increase or decrease in the estimated cost of, or the time required for the performance of any part of the work under this contract, whether changed or not changed by any such order, or otherwise affects any other provision of this contract, an equitable adjustment shall be made:

(i) in the estimated cost or delivery schedule, or both;
(ii) in the amount of any fixed fee to be paid to the Contractor; and
(iii) in such other provisions of the contract as may be affected, and the contract shall be modified in writing accordingly.

Any claim by the Contractor for adjustment under this clause must be asserted within thirty (30) days from the date of receipt by the Contractor of the notification of change; provided that, without prejudicing the right to reject any claim asserted after this time, if the Contracting Officer decides that the facts justify such action, may receive and act upon any such claim asserted at any time prior to final payment under this contract. Failure to agree to any adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes." However, except as provided in paragraph (c) below, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

(c) Notwithstanding the provisions of paragraphs (a) and (b) above, the estimated cost of this contract and, if this contract is incrementally funded, the funds allotted for the performance thereof, shall not be increased or deemed to be increased except by specific written modification of the contract indicating the new contract estimated cost and, if this contract is incrementally funded, the new amount allotted to the contract. Until such modification is made, the Contractor shall not be obligated to continue performance or incur costs beyond the point established in the clause of this contract entitled "Limitation of Cost" or "Limitation of Funds."

3. LIMITATION OF COST

(a) It is estimated that the total cost to the Government for the performance of this contract, exclusive of any fee, will not exceed the estimated cost set forth in the Schedule, and the Contractor agrees to use his best efforts to perform the work specified in the Schedule and all obligations under this contract within such estimated cost. If, at any time, the Contractor has reason to believe that the cost which he expects to incur in the performance of this contract in the next succeeding sixty (60) days, when added to all costs previously incurred, will exceed seventy-five percent (75%) of the estimated cost set forth in the Schedule, or if, at any time, the Contractor has reason to believe that the total cost to the Government for the performance of this contract, exclusive of any fee, will be greater or substantially less than the then estimated cost hereof, the Contractor shall notify the Contracting Officer in writing to that effect, giving the revised estimate of such total cost for the performance of this contract.

(b) Except as required by other provisions of this contract specifically citing and stated to be an exception from this clause, the Government shall not be obligated to reimburse the Contractor for costs incurred in excess of the estimated cost set forth in the Schedule, and the Contractor shall not be obligated to continue performance under the contract (including actions under the Termination clause) or otherwise to incur costs in excess of the estimated cost set forth in the Schedule, unless and until the Contracting Officer shall have notified the Contractor in writing that such estimated cost has been increased and shall have specified in such notice a revised estimated cost which shall thereupon constitute the estimated cost of performance of this contract. No notice, communication or representation in any other form or from any person other than the Contracting Officer shall affect the estimated cost of this contract. In the absence of the specified notice, the Government shall not be obligated to reimburse the Contractor for any costs in excess of the estimated cost set forth in the Schedule, whether those excess costs were incurred during the course of the contract or as a result of termination. When and to the extent that the estimated cost set forth in the Schedule has been increased, any costs incurred by the Contractor in excess of the estimated cost prior to such increase shall be allowable to the same extent as if such costs had been incurred after the increase; unless the Contracting Officer issues a termination or other notice and directs that the increase is solely for the purpose of covering termination or other specified expenses.

(c) Change orders issued pursuant to the Changes clause of this contract shall not be considered an authorization to the Contractor to exceed the estimated cost set forth in the Schedule in the absence of a statement in the change order, or other contract modification, increasing the estimated cost.

(d) In the event this contract is terminated, or the estimated cost not increased, the Government and the Contractor shall negotiate an equitable distribution of all property produced or purchased under the contract based upon the share of costs incurred by each.

4. ALLOWABLE COST, FIXED FEE, AND PAYMENT

(a) For the performance of this contract, the Government shall pay to the Contractor--

(i) the cost thereof (hereinafter referred to as "allowable cost") determined by the Contracting Officer to be allowable in accordance with--
(A) Subpart 1-15.2 of Part 1-15 of the Federal Procurement Regulations as in effect on the date of this contract; and
(B) the terms of this contract; and
(ii) such fixed fee, if any, as may be provided for in the Schedule.

(b) Once each month (or at more frequent intervals, if approved by the Contracting Officer), the Contractor may submit to an authorized representative of the Contracting Officer, in such

form and reasonable detail as such representative may require, an invoice or public voucher supported by a statement of cost incurred by the Contractor in the performance of this contract and claimed to constitute allowable cost.

(c) Promptly after receipt of each invoice or voucher and statement of cost, the Government shall, except as otherwise provided in this contract, subject to the provisions of (d) below, make payment thereon as approved by the Contracting Officer. Payment of the fixed fee, if any, shall be made to the Contractor as specified in the Schedule; provided, however, that after payment of eighty-five percent (85%) of the fixed fee set forth in the Schedule, the Contracting Officer may withhold further payment of fee until a reserve shall have been set aside in an amount which he considers necessary to protect the interest of the Government, but such reserve shall not exceed fifteen percent (15%) of the total fixed fee or one hundred thousand dollars ($100,000), whichever is less.

(d) At any time or times prior to final payment under this contract, the Contracting Officer may have the invoices or vouchers and statements of cost audited. Each payment theretofore made shall be subject to reduction for amounts included in the related invoice or voucher which are found by the Contracting Officer, on the basis of such audit, not to constitute allowable cost. Any payment may be reduced for overpayments, or increased for underpayments, on preceding invoices or vouchers.

(e) On receipt and approval of the invoice or voucher designated by the Contractor as the "completion invoice", or "completion voucher" and upon compliance by the Contractor with all the provisions of this contract (including, without limitation, the provisions relating to patents and the provisions of (f) below), the Government shall promptly pay to the Contractor any balance of allowable cost, and any part of the fixed fee, which has been withheld pursuant to (c) above or otherwise not paid to the Contractor. The completion invoice or voucher shall be submitted by the Contractor promptly following completion of the work under this contract but in no event later than one (1) year (or such longer period as the Contracting Officer may in his discretion approve in writing) from the date of such completion.

(f) The Contractor agrees that any refunds, rebates, credits, or other amounts (including any interest thereon) accruing to or received by the Contractor or any assignee under this contract shall be paid by the Contractor to the Government, to the extent that they are properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract. Reasonable expenses incurred by the Contractor for the purpose of securing such refunds, rebates, credits, or other amounts shall be allowable costs hereunder when approved by the Contracting Officer. Prior to final payment under this contract, the Contractor and each assignee under this contract whose assignment is in effect at the time of final payment under this contract shall execute and deliver--

(i) an assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including any interest thereon) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and

(ii) a release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, subject only to the following exceptions--

(A) specified claims in stated amounts or in estimated amounts where the amounts are not susceptible of exact statement by the Contractor;

(B) claims, together with reasonable expenses incidental thereto, based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that such claims are not known to the Contractor on the date of the execution of the release; and provided further that the Contractor gives notice of such claims in writing to the Contracting Officer not more than six (6) years after the date of the release or the date of any notice to the Contractor that the Government is prepared to make final payment, whichever is earlier; and

(C) claims for reimbursement of costs (other than expenses of the Contractor by reason of his indemnification of the Government against patent liability), including reasonable expenses incidental thereto, incurred by the Contractor under the provisions of this contract relating to patents.

(g) Any cost incurred by the Contractor under the terms of this contract which would constitute allowable cost under the provisions of this clause shall be included in determining the amount payable under this contract, notwithstanding any provisions contained in the specifications or other documents incorporated in this contract by reference, designating services to be performed or materials to be furnished by the Contractor at his expense or without cost to the Government.

5. INSPECTION

The Government, through any authorized representatives, has the right at all reasonable times, to inspect, or otherwise evaluate the work performed or being performed hereunder and the premises in which it is being performed. If any inspection, or evaluation is made by the Government on the premises of the Contractor or a subcontractor, the Contractor shall provide and shall require his subcontractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representatives in the performance of their duties. All inspections and evaluations shall be performed in such a manner as will not unduly delay the work.

6. DISPUTES

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the Secretary. The decision of the Secretary or his duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This "Disputes" clause does not preclude consideration of law questions in connection with decisions provided for in paragraph (a) above: Provided, That nothing in this contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

7. UTILIZATION OF MINORITY BUSINESS ENTERPRISES

(The following clause is applicable if this contract exceeds $5,000.)

(a) It is the policy of the Government that minority business enterprises shall have the maximum practicable opportunity to participate in the performance of Government contracts.

(b) The Contractor agrees to use his best efforts to carry out this policy in the award of his subcontracts to the fullest extent consistent with the efficient performance of this contract. As used in this contract, the term "minority business enterprises" means a business, at least 50 percent of which is owned by minority group members, or, in case of publicly owned businesses, at least 51 percent of the stock of which is owned by minority group members. For the purposes of this definition, minority group members are Negroes, Spanish-speaking American persons, American-Orientals, American-Indians, American-Eskimos, and American Aleuts. Contractors may rely on written representations by subcontractors regarding their stacus as minority business enterprises in lieu of an independent investigation.

8. UTILIZATION OF SMALL BUSINESS CONCERNS

(This clause is applicable if the amount of this contract exceeds $5,000.)

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with small business concerns.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

9. UTILIZATION OF LABOR SURPLUS AREA CONCERNS

(The following clause is applicable if this contract exceeds $5,000.)

(a) It is the policy of the Government to award contracts to labor surplus area concerns that (1) have been certified by the Secretary of Labor (hereafter referred to as certified-eligible concerns with first or second preferences) regarding the employment of a proportionate number of disadvantaged individuals and have agreed to perform substantially (i) in or near sections of concentrated unemployment or underemployment or in persistent or substantial labor surplus areas or (ii) in other areas of the United States, respectively, or (2) are noncertified concerns which have agreed to perform substantially in persistent or substantial labor surplus areas, where this can be done consistent with the efficient performance of the contract and at prices no higher than are obtainable elsewhere. The Contractor agrees to use his best efforts to place his subcontracts in accordance with this policy.

(b) In complying with paragraph (a) of this clause and with paragraph (b) of the clause of this contract entitled "Utilization of Small Business Concerns" the Contractor in placing his subcontracts shall observe the following order of preference: (1) Certified-eligible concerns with a first preference which are also small business concerns; (2) other certified-eligible concerns with a first preference; (3) certified-eligible concerns with a second preference which are also small business concerns; (4) other certified-eligible concerns with a second preference; (5) persistent or substantial labor surplus area concerns which are also small business concerns; (6) other persistent or substantial labor surplus area concerns; and (7) small business concerns which are not labor surplus area concerns.

10. COMPETITION IN SUBCONTRACTING

The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the contract.

11. ASSIGNMENT OF CLAIMS

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), if this contract provides for payments aggregating $1,000 or more, claims for moneys due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this contract, payments to an assignee of any money due or to become due under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or setoff.

(b) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," or "Confidential," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same. However, a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

12. CONVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

13. CONVICT LABOR

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor.

14. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

15. WALSH-HEALEY PUBLIC CONTRACTS ACT

If this contract is for the manufacture or furnishing of materials, supplies, articles, or equipment in an amount which exceeds or may exceed $10,000 and is otherwise subject to the Walsh-Healey Public Contracts Act, as amended (41 U.S. Code 35-45), there are hereby incorporated by reference all representations and stipulations required by said Act and regulations issued thereunder by the Secretary of Labor, such representations and stipulations being subject to all applicable rulings and interpretations of the Secretary of Labor which are now or may hereafter be in effect.

16. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT--OVERTIME COMPENSATION

This contract, to the extent that it is of a character specified in the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333), is subject

to the following provisions and to all other applicable provisions and exceptions of such Act and the regulations of the Secretary of Labor thereunder.

(a) Overtime requirements. No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, apprentices, trainees, watchmen, and guards shall require or permit any laborer, mechanic, apprentice, trainee, watchman, or guard in any workweek in which he is employed on such work to work in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek on work subject to the provisions of the Contract Work Hours and Safety Standards Act unless such laborer, mechanic, apprentice, trainee, watchman, or guard receives a compensation at a rate not less than one and one-half times his basic rate of pay for all such hours worked in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek, whichever is the greater number of overtime hours.

(b) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions of paragraph (a), the Contractor and any subcontractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, apprentice, trainee, watchman, or guard employed in violation of the provisions of paragraph (a) in the sum of $10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of 8 hours or in excess of his standard workweek of 40 hours without payment of the overtime wages required by paragraph (a).

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer may withhold from the Government Prime Contractor, from any moneys payable on account of work performed by the Contractor or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions of paragraph (b).

(d) Subcontracts. The Contractor shall insert paragraphs (a) through (d) of this clause in all subcontracts, and shall require their inclusion in all subcontracts of any tier.

(e) Records. The Contractor shall maintain payroll records containing the information specified in 29 CFR 516.2(a). Such records shall be preserved for three years from the completion of the contract.

17. EQUAL OPPORTUNITY

(The following clause is applicable unless this contract is exempt under the rules, regulations, and relevant orders of the Secretary of Labor (41 CFR, ch. 60).)

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this Equal Opportunity clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified

applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the labor union or workers' representative of the Contractor's commitments under this Equal Opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the Equal Opportunity clause of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for non-compliance: Provided, however, That in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

18. BUY AMERICAN ACT

(a) In acquiring end products, the Buy American Act (41 U.S. Code 10a-d) provides that the Government give preference to domestic source end products. For the purpose of this clause:

(i) "Components" means those articles, materials, and supplies which are directly incorporated in the end products;

(ii) "End products" means those articles, materials, and supplies which are to be acquired under this contract for public use; and

(iii) A "domestic source end product" means (A) an unmanufactured end product which has been mined or produced in the United States and (B) an end product manufactured in the United States if the cost of the components thereof which are mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. For the purposes of this (a)(iii)(B), components of foreign origin of the same type or kind as the products referred to in (b)(ii)

or (iii) of this clause shall be treated as components mined, produced, or manufactured in the United States.

(b) The Contractor agrees that there will be delivered under this contract only domestic source end products, except end products:

(i) Which are for use outside the United States;

(ii) Which the Government determines are not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality;

(iii) As to which the Secretary determines the domestic preference to be inconsistent with the public interest; or

(iv) As to which the Secretary determines the cost to the Government to be unreasonable.

(The foregoing requirements are administered in accordance with Executive Order No. 10582, dated December 17, 1954.)

19. DISSEMINATION OF CONTRACT INFORMATION

The Contractor shall not publish, permit to be published, or distribute for public consumption, any information, oral or written, concerning the results or conclusions made pursuant to the performance of this contract, without the prior written consent of the Contracting Officer. (Two copies of any material proposed to be published or distributed shall be submitted to the Contracting Officer.)

20. NOTICE OF DELAYS

(a) Whenever the Contractor encounters any difficulty which is delaying or threatens to delay the timely performance of this contract (including actual or potential labor disputes), the Contractor shall immediately give notice thereof in writing to the Contracting Officer, stating all relevant information with respect thereto. Such notice shall not in any way constitute a basis for an extension of the delivery schedule or be construed as a waiver by the Government of any rights or remedies to which it is entitled by law or pursuant to provisions of this contract. Failure to give such notice, however, may be grounds for denial of any request for an extension of the delivery schedule because of such delay.

(b) The Contractor agrees to insert the substance of this clause, including this paragraph (b), in any subcontract hereunder; except that each such subcontract shall provide that in the event its timely performance is delayed or threatened by delay, the subcontractor shall immediately notify his next higher tier subcontractor, or the prime contractor, as the case may be, of all relevant information with respect thereto.

21. GRATUITIES

(a) The Government may, by written notice to the Contractor, terminate the right of the Contractor to proceed under this contract if it is found, after notice and hearing, by the agency head or his duly authorized representative, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the Government with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such contract; provided, that the existence of the facts upon which the agency head or his duly authorized representative makes such findings shall be in issue and may be reviewed in any competent court.

(b) In the event this contract is terminated, as provided in paragraph (a) hereof, the Government shall be entitled (i) to pursue the same remedies against the Contractor as it could pursue in the event of a breach of the contract by the Contractor and (ii) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the agency head or his duly authorized representative) which shall be not less than three or more than ten times the cost incurred by the Contractor in providing any such gratuities to any such officer or employee.

(c) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

22. PRIORITIES, ALLOCATIONS, AND ALLOTMENTS

The Contractor shall follow the provisions of DMS Reg. 1 and all other applicable regulations and orders of the Business and Defense Services Administration in obtaining controlled materials and other products and materials required for the performance of this contract.

23. NEW MATERIALS

Except as to any supplies or components which the contract specifically provides need not be new, all supplies and components to be provided under this contract shall be new (not used or reconditioned, and not of such age or so deteriorated as to impair their usefulness or safety), of current production and of the most suitable grade for the purpose intended. If at any time during the performance of this contract the Contractor believes that the furnishing of supplies or components which are not new is necessary or desirable, he shall notify the Contracting Officer immediately, in writing, including the reasons therefor and proposing any consideration which will flow to the Government if authorization to use such supplies is granted.

24. INTERPRETATION OR MODIFICATION

No oral statement of any person, and no written statement of anyone other than the Contracting Officer, or his authorized representative designated in accordance with section 12-1.402-50 of the DOT Procurement Regulations (41 CFR 12-1.402-50), acting within the limits of his authority specified in such designation, shall modify or otherwise affect any provision of the contract.

25. INSURANCE--LIABILITY TO THIRD PERSONS

(a) The Contractor shall procure and thereafter maintain workmen's compensation, employer's liability, comprehensive general liability (bodily injury) and comprehensive automobile liability (bodily injury and property damage) insurance, with respect to performance under this contract, and such other insurance as the Contracting Officer may from time to time require with respect to performance under this contract: Provided, That the Contractor may, with the approval of the Contracting Officer, maintain a self-insurance program: And provided further, That with respect to workmen's compensation the Contractor is qualified pursuant to statutory authority. All insurance required pursuant to the provisions of this paragraph shall be in such form, in such amount, and for such periods of time, as the Contracting Officer may from time to time require or approve, and with insurers approved by the Contracting Officer.

(b) The Contractor agrees, to the extent and in the manner required by the Contracting Officer, to submit for the approval of the Contracting Officer any other insurance maintained by the Contractor in connection with the performance of this contract and for which the Contractor seeks reimbursement hereunder.

(c) The Contractor shall be reimbursed: (1) For the portion allocable to this contract of the reasonable cost of insurance as required or approved pursuant to the provisions of this clause, and (2) for liabilities to third persons for loss of or damage to property (other than

property (i) owned, occupied or used by the Contractor or rented to the Contractor or (ii) in the care, custody, or control of the Contractor), or for death or bodily injury, not compensated by insurance or otherwise, arising out of the performance of this contract, whether or not caused by the negligence of the Contractor, his agents, servants or employees: Provided, Such liabilities are represented by final judgments or by settlements approved in writing by the Government and expenses incidental to such liabilities, except liabilities (a) for which the Contractor is otherwise responsible under the express terms of the clause or clauses, if any, specified in the Schedule, or (b) with respect to which the Contractor has failed to insure as required or maintain insurance as approved by the Contracting Officer or (c) which results from willful misconduct or lack of good faith on the part of any of the Contractor's directors or officers, or on the part of any of its managers, superintendents, or other equivalent representatives, who has supervision or direction of (1) all or substantially all of the Contractor's business, or (2) all or substantially all of the Contractor's operations at any one plant or separate location in which this contract is being performed, or (3) a separate and complete major industrial operation in connection with the performance of this contract. The foregoing shall not restrict the right of the Contractor to be reimbursed for the cost of insurance maintained by the Contractor in connection with the performance of this contract, other than insurance required to be submitted for approval or required to be procured and maintained pursuant to the provisions of this clause: Provided, Such cost would constitute allowable cost under the clause of this contract entitled "Allowable Cost, Fixed Fee, and Payment."

(d) The Contractor shall give the Government or its representatives immediate notice of any suit or action filed, and prompt notice of any claim made, against the Contractor arising out of the performance of this contract, the cost and expense of which may be reimbursable to the Contractor under the provisions of this contract, and the risk of which is then uninsured or in which the amount claimed exceeds the amount of coverage. The Contractor shall furnish immediately to the Government copies of all pertinent papers received by the Contractor. If the amount of the liability claimed exceeds the amount of coverage, the Contractor shall authorize representatives of the Government to collaborate with counsel for the insurance carrier, if any, in settling or defending such claim. If the liability is not insured or covered by bond, the Contractor shall, if required by the Government, authorize representatives of the Government to settle or defend any such claim and to represent the Contractor in or take charge of any litigation in connection therewith; Provided, That the Contractor may, at his own expense, be associated with the representatives of the Government in the settlement or defense of any such claim or litigation.

26. EXCUSABLE DELAYS

Except with respect to defaults of subcontractors, the Contractor shall not be in default by reason of any failure in performance of this contract in accordance with its terms (including any failure by the Contractor to make progress in the prosecution of the work hereunder which endangers such performance) if such failure arises out of causes beyond the control and without the fault or negligence of the Contractor. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather, but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the failure of a subcontractor to perform or make progress, and if such failure arises out of causes beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either of them, the Contractor shall not be deemed to be in default, unless (a) the supplies or services to be furnished by the subcontractor were obtainable from other sources, (b) the Contracting Officer shall have ordered the Contractor in writing to procure such supplies or services from such other sources, and (c) the Contractor shall have failed to comply reasonably with such order. Upon request of the Contractor, the Contracting Officer shall ascertain the facts and extent of such failure and, if he shall determine that any failure to perform was occasioned by any one or more of the said causes, the delivery schedule shall be revised accordingly, subject to the rights of the Government under the clause hereof entitled "Termination for Default or for Convenience of the Government." (As used in this clause, the terms "subcontractor" and "subcontractors" mean subcontractor(s) at any tier.)

27. EXAMINATION OF RECORDS BY COMPTROLLER GENERAL

(a) This clause is applicable if the amount of this contract exceeds $2,500 and was entered into by means of negotiation, including small business restricted advertising, but is not applicable if this contract was entered into by means of formal advertising.

(b) The Contractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of 3 years after final payment under this contract or such lesser time specified in either Appendix M of the Armed Services Procurement Regulations or the Federal Procurement Regulations Part 1-20, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of the Contractor involving transactions related to this contract.

(c) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of 3 years after final payment under the subcontract or such lesser time specified in either Appendix M of the Armed Services Procurement Regulation or the Federal Procurement Regulations Part 1-20, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in this clause excludes (1) purchase orders not exceeding $2,500 and (2) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

(d) The periods of access and examination described in (b) and (c), above, for records which relate to (1) appeals under the "Disputes" clause of this contract, (2) litigation or the settlement of claims arising out of the performance of this contract, or (3) costs and expenses of this contract as to which exception has been taken by the Comptroller General or any of his duly authorized representatives, shall continue until such appeals, litigation, claims, or exceptions have been disposed of.

28. AUDIT AND RECORDS

(a) The Contractor shall maintain books, records, documents, and other evidence and accounting procedures and practices, sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred and anticipated to be incurred for the performance

of this contract. The foregoing constitute "records" for the purposes of this clause.

(b) The Contractor's plants, or such part thereof as may be engaged in the performance of this contract, and his records shall be subject at all reasonable times to inspection and audit by the Contracting Officer or his authorized representatives. In addition, for purposes of verifying that cost or pricing data submitted, in conjunction with the negotiation of this contract or any contract change or other modification involving an amount in excess of $100,000, is accurate, complete, and current, the Contracting Officer, or his authorized representatives, shall, until the expiration of 3 years from the date of final payment under this contract, or of the time periods for the particular records specified in Part 1-20 of the Federal Procurement Regulations (41 CFR Part 1-20), whichever expires earlier, have the right to examine those books, records, documents, papers, and other supporting data which involve transactions related to this contract or which will permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein.

(c) The Contractor shall preserve and make available his records (1) until the expiration of 3 years from the date of final payment under this contract, or of the time periods for the particular records specified in 41 CFR Part 1-20, whichever expires earlier, and (2) for such longer period, if any, as is required by applicable statute, or by other clauses of this contract, or by (i) or (ii) below.

(i) If this contract is completely or partially terminated, the records relating to the work terminated shall be preserved and made available for a period of 3 years from the date of any resulting final settlement.

(ii) Records which relate to (A) appeals under the "Disputes" clause of this contract, (B) litigation or the settlement of claims arising out of the performance of this contract, or (C) costs and expenses of this contract as to which exception has been taken by the Contracting Officer or any of his duly authorized representatives, shall be retained until such appeals, litigation, claims, or exceptions have been disposed of.

(d)(1) The Contractor shall insert the substance of this clause, including the whole of this paragraph (d), in each subcontract hereunder that is not firm fixed-price or fixed-price with escalation. When so inserted, changes shall be made to designate the higher-tier subcontractor at the level involved in place of the Contractor; to add "of the Government prime contract" after "Contracting Officer"; and to substitute "the Government prime contract" in place of "this contract" in (B) of paragraph (c) above.

(2) The Contractor shall insert the substance of the following clause in each firm fixed-price or fixed-price with escalation subcontract hereunder which when entered into exceeds $100,000, except those subcontracts covered by subparagraph (3) below:

AUDIT

(a) For purpose of verifying that certified cost or pricing data submitted in conjunction with the negotiation of this contract or any contract change or other modification involving an amount in excess of $100,000, is accurate, complete, and current, the Contracting Officer of the Government prime contract, or his authorized representatives, shall, until the expiration of 3 years from the date of final payment under this contract, or of the time periods for the particular records specified in Part 1-20 of the Federal Procurement Regulations (41 CFR Part 1-20), whichever expires earlier, have the right to examine those books, records, documents, papers, and other supporting data which involve transactions related to this contract or which will permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein.

(b) The subcontractor agrees to insert this clause, including this paragraph (b), in all subcontracts hereunder which when entered into exceed $100,000 unless the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(3) The Contractor shall insert the following clause in each firm fixed-price or fixed-price with escalation subcontract hereunder which when entered into exceeds $100,000 where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

AUDIT--PRICE ADJUSTMENTS

(a) This clause shall become operative only with respect to any change or other modification of this contract, which involves a price adjustment in excess of $100,000 unless the price adjustment is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation: Provided, That such change or other modification to this contract must result from a change or other modification (1) to the Government prime contract, or (2) authorized under the provisions of the Government prime contract.

(b) For purposes of verifying that any certified cost or pricing data submitted in conjunction with a contract change or other modification is accurate, complete, and current, the Contracting Officer of the Government prime contract, or his authorized representatives, shall, until the expiration of 3 years from the date of final payment under this contract, or of the time periods for the particular records specified in Part 1-20 of the Federal Procurement Regulations (41 CFR Part 1-20), whichever expires earlier, have the right to examine those books, records, documents, papers, and other supporting data which involve transactions related to this contract or which will permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein.

(c) The subcontractor agrees to insert the substance of this clause including this paragraph (c) in all subcontracts hereunder which when entered into exceed $100,000.

29. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA

(a) If the Contracting Officer determines that any price, including profit or fee, negotiated in connection with this contract or any cost reimbursable under this contract was increased by any significant sums because the Contractor, or any subcontractor pursuant to the clause of this contract entitled "Subcontractor Cost or Pricing Data" or "Subcontractor Cost or Pricing Data--Price Adjustments," or any subcontract clause therein required, furnished incomplete or inaccurate cost or pricing data or data not current as certified in his Contractor's Certificate of Current Cost or Pricing Data, then such price or cost shall be reduced accordingly and the contract shall be modified in writing to reflect such reduction.

(b) Failure to agree on a reduction shall be a dispute concerning a question of fact within the meaning of the "Disputes" clause of this contract.

(NOTE: Since the contract is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with certain subcontracts, it is expected that the contractor may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the contractor. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data required to be submitted by his lower tier subcontractors.)

30. SUBCONTRACTOR COST AND PRICING DATA

(a) The Contractor shall require subcontractors hereunder to submit in writing cost or pricing data under the following circumstances:

(1) Prior to award of any cost-reimbursement type, time and material, labor-hour, incentive, or price redeterminable subcontract, the price of which is expected to exceed $100,000; and

(2) Prior to the award of any other subcontract, the price of which is expected to exceed $100,000 or to the pricing of any subcontract change or other modification for which the price adjustment is expected to exceed $100,000, where the price or price adjustment is not based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(b) The Contractor shall require subcontractors to certify, in substantially the same form as that used in the certificate by the Prime Contractor to the Government, that, to the best of their knowledge and belief, the cost and pricing data submitted under (a) above are accurate, complete, and current as of the date of the execution, which date shall be as close as possible to the date of agreement on the negotiated price of the subcontract or subcontract change or modification.

(c) The Contractor shall insert the substance of this clause including this paragraph (c) in each of his cost-reimbursement type, time and material, labor-hour, price redeterminable, or incentive subcontracts hereunder, and in any other subcontract hereunder which exceeds $100,000 unless the price thereof is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. In each such excepted subcontract hereunder which exceeds $100,000, the Contractor shall insert the substance of the following clause:

SUBCONTRACTOR COST AND PRICING DATA-PRICE ADJUSTMENT

(a) Paragraphs (b) and (c) of this clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000. The requirements of this clause shall be limited to such price adjustments.

(b) The Contractor shall require subcontractors hereunder to submit cost or pricing data under the following circumstances:

(1) Prior to award of any cost-reimbursement type, time and material, labor-hour, incentive, or price redeterminable subcontract, the price of which is expected to exceed $100,000; and

(2) Prior to award of any other subcontract, the price of which is expected to exceed $100,000, or to the pricing of any subcontract change or other modification for which the price adjustment is expected to exceed $100,000, where the price or price adjustment is not based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(c) The Contractor shall require subcontractors to certify, in substantially the same form as that used in the Certificate by the Prime Contractor to the Government, that, to the best of their knowledge and belief, the cost and pricing data submitted under (b) above are accurate, complete, and current as of the date of the execution, which date shall be as close as possible to the date of agreement on the negotiated price of the contract modification.

(d) The Contractor shall insert the substance of this clause including this paragraph (d) in each subcontract hereunder which exceeds $100,000.

31. NEGOTIATED OVERHEAD RATES

(a) Notwithstanding the provisions of the clause of this contract entitled "Allowable Cost, Fixed Fee, and Payment," the allowable indirect costs under this contract shall be obtained by applying negotiated overhead rates to bases agreed upon by the parties, as specified below.

(b) The Contractor, as soon as possible but not later than ninety (90) days after the expiration of his fiscal year, or such other period as may be specified in the contract, shall submit to the Contracting Officer, with a copy to the cognizant audit activity, a proposed final overhead rate or rates for that period based on the Contractor's actual cost experience during that period, together with supporting cost data. Negotiation of overhead rates by the Contractor and the Contracting Officer shall be undertaken as promptly as practicable after receipt of the Contractor's proposal.

(c) Allowability of costs and acceptability of cost allocation methods shall be determined in accordance with Subpart 1-15.2 of the Federal Procurement Regulations (41 CFR 1-15.2), as in effect on the date of this contract.

(d) The results of each negotiation shall be set forth in a modification to this contract, which shall specify (1) the agreed final rates, (2) the bases to which the rates apply, and (3) the periods for which the rates apply.

(e) Pending establishment of final overhead rates for any period, the Contractor shall be reimbursed either at negotiated provisional rates as provided in the contract, or at billing rates acceptable to the Contracting Officer, subject to appropriate adjustment when the final rates for that period are established. To prevent substantial over or under payment, and to apply either retroactively or prospectively: (1) Provisional rates may, at the request of either party, be revised by mutual agreement, and (2) billing rates may be adjusted at any time by the Contracting Officer. Any such revision of negotiated provisional rates specified in the contract shall be set forth in a modification to this contract.

(f) Any failure by the parties to agree on any final rate or rates under this clause shall be considered a dispute concerning a question of fact for decision by the Contracting Officer within the meaning of the "Disputes" clause of this contract.

32. PAYMENT FOR OVERTIME PREMIUMS

(a) Allowable cost shall not include any amount on account of overtime premiums except when paid for work:

(1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdowns of production equipment, or occasional production bottlenecks of a sporadic nature;

(2) By indirect labor employees such as those performing protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting;

(3) In the performance of tests, industrial processes, laboratory procedures, loading or unloading of transportation media, and operations in flight or afloat, which are continuous in nature and cannot reasonably be interrupted or otherwise completed; or

(4) Which will result in lower cost to the Government.

(b) The cost of overtime premiums otherwise allowable under (a) above shall be allowed only to the extent the amount thereof is reasonable and properly allocable to the work under this contract.

(c) Any request for overtime will be for all overtime which can be estimated with reasonable certainty, shall be used for the remainder of the contract, and shall contain the following:

(1) Identification of the work unit, such as the department or section in which the requested overtime will be used, together with present workload, manning and other data of the affected unit, sufficient to permit an evaluation by the Contracting Officer of the necessity for the overtime;

(2) The effect that denial of the request will have on the delivery or performance schedule of the contract;

(3) Reasons why the required work cannot be performed on the basis of utilizing multi-shift operations or by the employment of additional personnel; and

(4) The extent to which approval of overtime would affect the performance or payments in connection with any other Government contracts, together with any identification of such affected contracts.

33. GOVERNMENT PROPERTY

(a) Property administration. The Contractor shall establish and administer a system to control, protect, preserve, and maintain Government property in his possession or under his control or that of his subcontractors. Such a system must be satisfactory to the Contracting Officer, and in accordance with this clause and any other requirements of the contract.

(b) Government-furnished property.

(1) The Government shall deliver to the Contractor, for use in connection with and under the terms of this contract, the property described as Government-furnished property in the Schedule or specifications, together with such related data and information as the Contractor may request and as may reasonably be required for the intended use of such property (hereinafter referred to as "Government-furnished property").

(2) The delivery or performance dates for the supplies or services to be furnished by the Contractor under this contract are based upon the expectation that Government-furnished property suitable for use will be delivered to the Contractor at the time stated in the Schedule or, if not so stated, in sufficient time to enable the Contractor to meet such delivery or performance dates.

(3) If the Schedule does not state a date when Government-furnished property will be delivered, the Contractor shall notify the Contracting Officer in writing of the date by which he requires such property to meet the contract delivery or performance dates. The Contractor shall allow a minimum of 30 days for delivery of Government-furnished property, unless a different time is specified in the Schedule. If not received 5 days before the date it is required by the Contractor, the Contracting Officer shall be so notified.

(4) If Government-furnished property is not delivered to the Contractor by the date specified in the Schedule, or by the date specified by the Contractor pursuant to (3) above, the Contracting Officer shall, upon timely request made by the Contractor, make a determination of the delay, if any, occasioned the Contractor and shall equitably adjust the estimated cost, fixed fee, or delivery or performance dates, or all of them, and any other contractual provisions affected by any such delay, in accordance with the procedures of the "Changes" clause of this contract.

(5) In the event that Government-furnished property is received by the Contractor in a condition not suitable for intended use (except for such property furnished "as is" or otherwise specified), the Contractor shall, upon receipt thereof, notify the Contracting Officer of such fact and, as directed by the Contracting Officer, either (i) return such property at the Government's expense or otherwise dispose of the property, or (ii) effect repairs or modifications. Upon completion of (i) or (ii) above, the Contracting Officer upon request of the Contractor shall equitably adjust the estimated cost, fixed fee, or delivery or performance dates, or all of them, and any other contractual provisions affected by the return or disposition, or the repair or modification in accordance with the procedures of the "Changes" clause of this contract.

(6) The foregoing provisions for adjustment are exclusive and the Government shall not be liable to suit for breach of contract by reason of any delay in delivery of Government-furnished property or delivery of such property in a condition not suitable for its intended use.

(c) Changes in Government-furnished property.

(1) By notice in writing, the Contracting Officer may (i) decrease the property provided or to be provided by the Government under this contract, or (ii) substitute other Government-owned property for property to be provided by the Government or to be acquired by the Contractor for the Government under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct with respect to the removal and shipping of property covered by such notice.

(2) In the event of any decrease in or substitution of property pursuant to subparagraph (1) above, or any withdrawal of authority to use property provided under any other contract or lease, which property the Government had agreed in the Schedule to make available for the performance of this contract, the Contracting Officer, upon the written request of the Contractor (or on his own initiative if the substitution of property causes a decrease in the cost of performance), shall equitably adjust such contractual provisions as may be affected by the decrease, substitution, or withdrawal, in accordance with the procedures provided for in the "Changes" clause of this contract.

(d) Title to property. Title to the Government-furnished property shall remain in the Government. Title to all property purchased by the Contractor, for the cost of which the Contractor is entitled to be reimbursed as a direct item of cost under this contract, shall pass to and vest in the Government upon delivery of such property by the vendor. Title to other property, the cost of which is reimbursable to the Contractor under the contract, shall pass to and vest in the Government upon (i) issuance for use of such property in the performance of this contract, or (ii) commencement of processing or use of such property in the performance of this contract, or (iii) reimbursement of the cost thereof by the Government, whichever occurs first. All Government-furnished property, together with all property acquired by the Contractor title to which vests in the Government under this paragraph, is subject to the provisions of this clause and is hereinafter collectively referred to as "Government property". Title to Government property shall not be affected by the incorporation of attachment thereof to any property not owned by the Government, nor shall such Government property, or any part thereof, be or become a fixture or lose its identity as personalty by reason of affixation to any realty.

(e) Use of Government property. The Government property shall, unless otherwise provided herein or approved by the Contracting Officer, be used only for the performance of this contract.

(f) Maintenance and repair of Government property. The Contractor shall maintain and administer, in accordance with sound industrial practice, a program for the maintenance, repair, protection, and preservation of Government property, while in custody of the Contractor. In the event that any damage occurs to Government property the risk of which has been assumed by the Government under this contract, the Government shall replace such items or the Contractor shall make such repair of the property as the Government directs; provided however, that if the Contractor cannot effect such repair within the time required, the Contractor shall dispose of such property in the manner directed by the Contracting Officer. The contract price includes no compensation to the Contractor for the performance of any repair or replacement for which the Government is responsible, and an equitable adjustment will be made in any contractual provisions affected by such repair or replacement of Government property made at the direction of the Government, in accordance with the procedures provided for in the "Changes" clause of this contract. Where replacement parts are provided at the expense of the Government, the parts which are displaced remain the property of the Government. Any repair or replacement for which the Contractor is responsible under the provisions of this contract shall be accomplished by the Contractor at his own expense.

(g) Risk of loss, damage.

(1) The Contractor shall not be liable for any loss of or damage to the Government property, or for expenses incidental to such loss or damage, except that the Contractor shall be responsible for any such loss or damage (including expenses incidental thereto):

(i) Which results from willful misconduct or lack of good faith on the part of any one of the Contractor's directors or officers or on the part of any of his managers, superintendents, or other equivalent representatives, who has supervision or direction of:

(A) all or substantially all of the Contractor's business; or

(B) all or substantially all of the Contractor's operations at any one plant or separate location, in which this contract is being performed; or

(C) a separate and complete major industrial operation in connection with the performance of this contract;

(ii) Which results from a failure on the part of the Contractor, due to the willful misconduct or lack of good faith on the part of any of his directors, officers, or other representatives mentioned in subparagraph (i) above--

(A) to maintain and administer, in accordance with sound industrial practice, the program for maintenance, repair, protection and preservation of Government property as required by paragraph (f) hereof, or

(B) to establish, maintain and administer, in accordance with (a) above, a system for control of Government property;

(iii) for which the Contractor is otherwise responsible under the express terms of the clause or clauses designated in the Schedule;

(iv) which results from a risk expressly required to be insured under this contract, but only to the extent of the insurance so required to be procured and maintained, or to the extent of insurance actually procured and maintained, whichever is greater; or

(v) which results from a risk which is in fact covered by insurance or for which the Contractor is otherwise reimbursed, but only to the extent of such insurance or reimbursement.

Any failure of the Contractor to act, as provided in subparagraph (ii) above, shall be conclusively presumed to be a failure resulting from willful misconduct, or lack of good faith on the part of such directors, officers, or other representatives mentioned in subparagraph (i) above, if the Contractor is notified by the Contracting Officer by registered or certified mail addressed to one of such directors, officers, or other representatives, of the Government's disapproval, withdrawal of approval, or nonacceptance of the Contractor's program or system. In such event it shall be presumed that any loss or damage to Government property resulted from such failure. The Contractor shall be liable for such loss or damage unless he can establish by clear and convincing evidence that such loss or damage did not result from his failure to maintain an approved program or system, or occurred during such time as an approved program or system for control of Government property was maintained. If more than one of the above exceptions shall be applicable in any case, the Contractor's liability under any one exception shall not be limited by any other exception. If the Contractor transfers Government property to the possession and control of a subcontractor, the transfer shall not affect the liability of the Contractor for loss or destruction of or damage to the property as set forth above. However, the Contractor shall require the subcontractor to assume the risk of, and be responsible for, any loss or destruction of or damage to the property while in the latter's possession or control, except to the extent that the subcontract, with the prior approval of the Contracting Officer, provides for the relief of the subcontractor from such liability. In the absence of such approval, the subcontract shall contain appropriate provisions requiring the return of all Government property in as good condition as when received, except for reasonable wear and tear or for the utilization of the property in accordance with the provisions of the prime contract.

(2) The Contractor shall not be reimbursed for, and shall not include as an item of overhead, the cost of insurance, or any provision for a reserve, covering the risk of loss of or damage to the Government property, except to the extent that the Government may have re-

quired the Contractor to carry such insurance under any other provisions of this contract.

(3) Upon the happening of loss or destruction of or damage to the Government property, the Contractor shall notify the Contracting Officer thereof, and shall communicate with the Loss and Salvage Organization, if any, now or hereafter designated by the Contracting Officer, and with the assistance of the Loss and Salvage Organization so designated (unless the Contracting Officer has designated that no such organization be employed), shall take all reasonable steps to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the Government property in the best possible order, and furnish to the Contracting Officer a statement of--

(i) the lost, destroyed and damaged Government property;

(ii) the time and origin of the loss, destruction or damage;

(iii) all known interests in commingled property of which the Government property is a part; and

(iv) the insurance, if any, covering any part of or interest in such commingled property.

The Contractor shall make repairs and renovations of the damaged Government property or take such other action, as the Contracting Officer directs.

(4) In the event the Contractor is indemnified, reimbursed, or otherwise compensated for any loss or destruction of or damage to the Government property, he shall use the proceeds to repair, renovate or replace the Government property involved, or shall credit such proceeds against the cost of the work covered by the contract, or shall otherwise reimburse the Government, as directed by the Contracting Officer. The Contractor shall do nothing to prejudice the Government's right to recover against third parties for any such loss, destruction, or damage and, upon the request of the Contracting Officer, shall, at the Government's expense, furnish to the Government, all reasonable assistance and cooperation (including the prosecution of suit and the execution of instruments of assignment in favor of the Government) in obtaining recovery. In addition, where the subcontractor has not been relieved from liability for any loss or destruction of or damage to Government property, the Contractor shall enforce the liability of the subcontractor for such loss or destruction of or damage to the Government property for the benefit of the Government.

(5) Except to the extent that the Contractor is relieved of liability for the loss, destruction, or damage to the property, the property shall be returned to the Government or otherwise disposed of as directed by the Government, in as good condition as when received, less ordinary wear and deterioration.

(h) Access. The Government, and any persons designated by it, shall at all reasonable times have access to the premises wherein any Government property is located, for the purpose of inspecting the Government property, or inventorying the same, or removing any part or all of the same, or for determining complaints with terms of the contract.

(i) Final accounting and disposition of Government property. Upon the completion of this contract, or at such earlier dates as may be fixed by the Contracting Officer, the Contractor shall submit, in a form acceptable to the Contracting Officer, inventory schedules covering all items of Government property not justifiably consumed in the performance of this contract (including any resulting scrap) or not theretofore delivered to the Government and shall prepare for shipment, deliver f.o.b. origin (unless otherwise provided in the contract) or dispose of the Government property, as may be directed or authorized by the Contracting Officer. The net proceeds of any such disposal shall be credited to the cost of the work covered by the contract or shall be paid in such other manner as the Contracting Officer may direct.

(j) Notification. The Contractor shall notify the Contracting Officer as soon as Government property is no longer required for performance of the contract. All shipments of Government-furnished property not delivered as an item of the contract, and residual contractor-acquired property, shall be effected only upon receipt of shipping instructions signed by the Contracting Officer, or his duly authorized representative.

(k) Restoration of Contractor's premises and abandonment. Unless otherwise provided herein, the Government:

(i) may abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease;

(ii) shall not be under any duty or obligation to restore or rehabilitate, or to pay the costs of the restoration or rehabilitation of, the Contractor's plant or any portion thereof which is affected by the abandonment or removal of any Government property;

(iii) shall be indemnified against all suits or claims arising out of the Government's failure to restore or rehabilitate the Contractor's property or the property of subcontractors, except for such damage as may be occasioned by the negligence of the Government, its agents, its employees, or independent contractors.

(l) Communications. All communications issued pursuant to this clause shall be in writing.

(NOTE: If this contract is with other than United States firms or individuals the term "Government", or "Government-furnished", wherever it appears in the text, is defined as "United States Government").

34. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT

(This clause is applicable only if the amount of this contract exceeds $10,000.)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government, on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed hereunder, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

35. PATENT RIGHTS (TITLE)

(a) Whenever any invention, improvement, or discovery (whether or not patentable) is made or conceived or for the first time actually reduced to practice, by the Contractor or his employees, in the course of, in connection with, or under the terms of this contract, the Contractor shall immediately give the Contracting Officer written notice thereof; and shall promptly thereafter furnish the Contracting Officer with complete information thereon; and the Secretary shall have the sole and exclusive power to determine whether or not and where a patent application

shall be filed, and to determine the disposition of all rights in such invention, improvement, or discovery, including title to and rights under any patent application or patent that may issue thereon. The determination of the Secretary on all these matters shall be accepted as final and the provisions of the clause of this contract entitled "Disputes" shall not apply; and the Contractor agrees that he will, and warrants that all of his employees who may be the inventors will, execute all documents and do all things necessary or proper to the effectuation of such determination.

(b) Except as otherwise authorized in writing by the Contracting Officer, the Contractor shall obtain patent agreements to effectuate the provisions of this clause from all persons who perform any part of the work under this contract, except such clerical and manual labor personnel as will have no access to technical data.

(c) Except as otherwise authorized in writing by the Contracting Officer, the Contractor will insert in each subcontract having design, test, experimental, developmental, or research work as one of its purposes, provisions making this clause applicable to the subcontractor and his employees.

(d) If the Government obtains patent rights pursuant to this clause of this contract, the Contractor shall be offered license rights thereto on terms at least as favorable as those offered to any other firm. However, in the event no effective steps have been taken by the Contractor or any other party within three years after issuance of a patent under which the Government acquires rights pursuant to this clause to bring the claimed invention to the point of practical application, the Government's obligation to offer a license pursuant to this clause shall terminate, and any license already granted to the Contractor pursuant to this clause shall be revoked unless the Contractor can show cause as to why such license shall not be revoked.

(e) Whenever any invention, improvement, or discovery relating to the work called for or required under this contract is constructively reduced to practice by the Contractor or his employees, during the period of performance of this contract, there shall be a prima facie presumption that such invention, improvement, or discovery was conceived or first actually reduced to practice in the course of, in connection with, or under the terms of this contract, and the Contractor shall immediately notify the Contracting Officer and submit the information required in paragraph (a) above. The Contractor shall have the burden of proving to the Contracting Officer that any such invention was not conceived or first actually reduced to practice in the course of, in connection with, or under the terms of this contract. If the Contractor fails to meet this burden, such inventions will be subject to all of the provisions of this clause.

(f) In the event no inventions, improvements, or discoveries (whether or not patentable) are made or conceived, or for the first time actually reduced to practice, by the Contractor, its employees, its subcontractors, or their employees, in the course of, in connection with, or under the terms of this contract, the Contractor shall so certify to the Contracting Officer, no later than the date on which the final report of work done, is due.

(g) (1) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer all the documents required by (a) or the certification required by (f), whichever applies.

(2) If at any time before final payment under this contract, the Contractor fails to deliver the documents required by (a) or the certification required by (f), the Contracting Officer shall withhold from payment $50,000 or five percent (5%) of the amount of this contract, whichever is less (or whatever lesser sum is available if payments have exceeded ninety-five percent (95%) of the amount of this contract) until the Contractor corrects all such failures.

(3) After payments total eighty percent (80%) of the amount of this contract, and if no amount is required to be withheld under (2) above, the Contracting Officer may, if he deems such action warranted because of the Contractor's performance under the Patent Rights clause of this contract or other known Government contracts, withhold from payment such sum as he considers appropriate not exceeding $50,000 or five percent (5%), of the amount of this contract, whichever is less, to be held as a reserve until the Contractor delivers the documents or certification specified in (1) above. Subject to the five percent (5%) or $50,000 limitation, the sum withheld under this subparagraph (3) may be increased or decreased from time to time at the discretion of the Contracting Officer.

(4) No amount shall be withheld under this paragraph (g) while the amount specified by this paragraph is being withheld under other provisions of this contract. The total amount withheld under (1), (2) and (3) above shall not exceed $50,000 or five percent (5%), of the amount of this contract whichever is less. The withholding of any amount or subsequent payment thereof to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract. This paragraph shall not be construed as requiring the Contractor to withhold any amounts from a subcontractor to enforce compliance with the patent provision of a subcontract. As used in this paragraph (g), "this contract" means "this contract as from time to time amended." In cost-type contracts, "amount of contract" means "estimated cost of this contract."

(h) If the Contractor is permitted to file patent applications pursuant to this clause of this contract, the following statement shall be included within the first paragraph of the specification of any such patent application or patent:

> "The invention described herein was made in the course of, or under, a contract (or grant) with the Department of Transportation."

(i) In the event the Contractor is permitted to acquire principal rights pursuant to this clause and fails to take effective steps within three years after issuance of a patent on any patent applications permitted to be filed pursuant to this clause, to bring the claimed invention to the point of practical application, the Contracting Officer may revoke such rights, or require the assignment of such rights, to the Government.

(j) Examination of records relating to inventions. The Contracting Officer or his authorized representative shall, until the expiration of three (3) years after final payment under this contract, have the right to examine any books, records, documents, and other supporting data of the Contractor which the Contracting Officer or his authorized representative shall reasonably deem directly pertinent to the discovery or identification of subject invention or to compliance by the Contractor with the requirements of this clause.

36. BACKGROUND PATENTS (LICENSE)

(a) "Product" as used herein means a process, machine, article of manufacture, or composition of matter the same as, or substantially the same as, that worked on under the contract.

(b) "Background patent" as used herein means any United States patent, under which the Contractor has the right to license others, and which covers the manufacture, use or sale of any product.

(c) When the Secretary determines:

(1) That a product is required by members of the public in the interest of the public health, safety, or welfare; and

(2) That neither the Contractor, nor any other person deriving rights from his patents, has produced the product at a reasonable price, in sufficient quantity, and at a level of quality to meet public needs,

the Contractor shall, on written application, issue appropriate licenses to others under any Background Patent on reasonable terms, such licenses to be restricted to the production, sale, and use of the product.

(d) When the Secretary has made the determination set forth in (c) above, the Contractor (or those deriving rights from the Contractor) shall not seek injunctive relief to enforce a Background Patent without:

(1) Previously advising the General Counsel, Office of the Secretary, Department of Transportation;

(2) Granting the Government the right to intervene in the injunction proceeding; and

(3) Disclosing the commitment set out in this clause to the court from which the injunction is sought.

37. RECOVERY OF DEVELOPMENTAL COSTS

(a) As may be determined by the Contracting Officer to be fair, reasonable and equitable, the Contractor shall pay to the Government up to 5 percent of sums hereafter received by or credited to the Contractor or its privies (including subcontractors) on sales or leases (exclusive of sales or leases to the U.S. Government, either directly or indirectly through Government prime Contractors or subcontractors) of any product which is substantially the same in design as, or which is directly derived from, that developed by the Contractor or any of its subcontractors in the performance of this contract.

(b) In selling or leasing the product identified in paragraph (a) above to the Government, either directly or indirectly through Government prime Contractors or subcontractors, the Contractor or its privies (including subcontractors) shall notify the purchaser or lessee in writing that the product was developed under a Department of Transportation contract containing a Recovery of Developmental Costs clause and that the purchase or lease price of such product is less than the price of such product when sold or leased to other than the Government by an amount no less than the Government's share under the Recovery of Developmental Costs clause. A copy of each such notice shall be sent to the Contracting Officer. In the event the product is sold or leased to the Government, the amount by which the sales or lease price was reduced by virtue of this clause shall be credited to the amount recoverable under this clause.

(c) As may be determined by the Contracting Officer to be fair, reasonable, and equitable, the Contractor shall also pay to the Government up to 33 percent of all sums hereafter received by, or credited to, the Contractor or its privies (including subcontractors) as payments under technical agreements permitting others (1) to sell, lease, or manufacture the product identified in paragraph (a) above, or (2) to use any process which is substantially the same as, or which is directly derived from, that developed by the Contractor or any of its subcontractors in the performance of this contract.

(d) Recovery by the Government under this clause shall be limited to amounts paid and credited to the Contractor under this contract. Payments to the Government under this clause shall not be so high as to destroy the Contractor's competitive position for the product involved, provided that the product is otherwise reasonably priced and efficiently and economically produced.

(e) The Contractor shall report to the Government all sales, leases, licensing agreements, royalties and receipts, which might reasonably be considered to be subject to this clause; and the Contractor shall promptly render accurate, certified accounts thereon to the Government at reasonable intervals.

38. SUBCONTRACTS

(a) The Contractor shall give advance notification to the Contracting Officer of any proposed subcontract hereunder which (i) is cost-reimbursement, time and materials, or labor-hour, or (ii) is fixed-price type and exceeds in dollar amount either $25,000 or five percent (5%) of the total estimated cost of this contract, (iii) provides for the fabrication, purchase, rental, installation, or other acquisition of special test equipment having a value in excess of $1,000 or of any items of industrial facilities; or (iv) has experimental, developmental, or research work as one of its purposes.

(b) In the case of a proposed subcontract which (i) is cost-reimbursement, time and materials, or labor-hour which would involve an estimated amount in excess of $10,000, including any fee, (ii) is proposed to exceed $100,000, or (iii) is one of a number of subcontracts under this contract with a single subcontractor for the same or related supplies or services which, in the aggregate are expected to exceed $100,000, the advance notification required by (a) above shall include:

(1) A description of the supplies or services to be called for by the subcontract;

(2) Identification of the proposed subcontractor and an explanation of why and how the proposed subcontractor was selected, including the degree of competition obtained;

(3) The proposed subcontract price, together with the Contractor's cost or price analysis thereof;

(4) The subcontractor's current, complete, and accurate cost or pricing data and Certificate of Current Cost or Pricing Data when such data and certificate are required by other provisions of this contract to be obtained from the subcontractor; and

(5) Identification of the type of subcontract to be used.

(c) The Contractor shall obtain the written consent of the Contracting Officer prior to placing any subcontract for which advance notification is required under (a) above. The Contracting Officer may, in his discretion, ratify in writing any such subcontract; such action shall constitute the consent of the Contracting Officer as required by this paragraph (c).

(d) The Contractor agrees that no subcontract placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis.

(e) The Contracting Officer may, in his discretion, specifically approve in writing any of the provisions of a subcontract. However, such approval or the consent of the Contracting Officer obtained as required by this clause

shall not be construed to constitute a determination of the allowability of any cost under this contract, unless such approval specifically provides that it constitutes a determination of the allowability of such cost.

(f) The Contractor shall give the Contracting Officer immediate notice in writing of any action or suit filed, and prompt notice of any claim made against the Contractor by any subcontractor or vendor which in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(g) Notwithstanding (c) above, the Contractor may enter into subcontracts within (i) and (ii) of (a) above, without the consent of the Contracting Officer, if the Contracting Officer has approved in writing the Contractor's procurement system and the subcontract is within the scope of such approval.

39. TERMINATION FOR DEFAULT OR FOR CONVENIENCE OF THE GOVERNMENT

(a) The performance of work under the contract may be terminated by the Government in accordance with this clause in whole, or from time to time in part:

(1) Whenever the Contractor shall default in performance of this contract in accordance with its terms (including in the term "default" any such failure by the Contractor to make progress in the prosecution of the work hereunder as endangers such performance), and shall fail to cure such default within a period of ten days (or such longer period as the Contracting Officer may allow) after receipt from the Contracting Officer of a notice specifying the default; or

(2) Whenever for any reasdn the Contracting Officer shall determine that such termination is in the best interest of the Government.

Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying whether termination is for the default of the Contractor or for the convenience of the Government, the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective. If, after notice of termination of this contract for default under (1) above, it is determined for any reason that the Contractor was not in default pursuant to (1), or that the Contractor's failure to perform or to make progress in performance is due to causes beyond the control and without the fault or negligence of the Contractor pursuant to the provisions of the clause of this contract relating to excusable delays, the Notice of Termination shall be deemed to have been issued under (2) above, and the rights and obligations of the parties hereto shall in such event be governed accordingly.

(b) After receipt of a Notice of Termination and except as otherwise directed by the Contracting Officer, the Contractor shall:

(1) Stop work under the contract on the date and to the extent specified in the Notice of Termination;

(2) Place no further orders or subcontracts for materials, services, or facilities, except as may be necessary for completion of such portion of the work under the contract as is not terminated;

(3) Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination;

(4) Assign to the Government, in the manner and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Contractor under the orders or subcontracts so terminated, in which case the Government shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(5) With the approval or ratification of the Contracting Officer, to the extent he may require, which approval or ratification shall be final and conclusive for all purposes of this clause, settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, the cost of which would be reimbursable in whole or in part, in accordance with the provisions of this contract;

(6) Transfer title to the Government (to the extent that title has not already been transferred) and deliver in the manner, at the times, and to the extent directed by the Contracting Officer, (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in respect of the performance of, the work terminated by the Notice of Termination; (ii) the completed or partially completed plans, drawings, information and other property which, if the contract had been completed, would be required to be furnished to the Government; and (iii) the jigs, dies, and fixtures, and other special tools and tooling acquired or manufactured for the performance of this contract for the cost of which the Contractor has been or will be reimbursed under this contract;

(7) Use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Contracting Officer, any property of the types referred to in (6) above: Provided, however, That the Contractor (i) shall not be required to extend credit to any purchaser and (ii) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Contracting Officer: And provided further, That the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Government to the Contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the Contracting Officer may direct;

(8) Complete performance of such part of the work as shall not have been terminated by the Notice of Termination; and

(9) Take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this contract which is in the possession of the Contractor and in which the Government has or may acquire an interest.

The Contractor shall proceed immediately with the performance of the above obligations notwithstanding any delay in determining or adjusting the amount of the fee, or any item of reimbursable cost, under this clause. At any time after expiration of the plant clearance period, as defined in Subpart 1-8.1 of the Federal Procurement Regulations (41 CFR 1-8.1), as the definition may be amended from time to time, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Contracting Officer, and may request the Government to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the Government will accept such items and remove them or enter into a storage agreement covering the same: Provided, That the list submitted shall be subject to verification by the Contracting Officer upon removal of the items or, if the items are stored, within forty-five (45) days from the date of submission of the list, and

any necessary adjustment to correct the list as submitted shall be made prior to final settlement.

(c) After receipt of a Notice of Termination, the Contractor shall submit to the Contracting Officer his termination claim in the form and with the certification prescribed by the Contracting Officer. Such claim shall be submitted promptly but in no event later than one year from the effective date of termination, unless one or more extensions in writing are granted by the Contracting Officer upon request of the Contractor made in writing within such one-year period or authorized extension thereof. However, if the Contracting Officer determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such one-year period or any extension thereof. Upon failure of the Contractor to submit his termination claim within the time allowed, the Contracting Officer may, subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

(d) Subject to the provisions of paragraph (c), and subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid (including an allowance for the fee) to the Contractor by reason of the total or partial termination of work pursuant to this clause. The contract shall be amended accordingly, and the Contractor shall be paid the agreed amount.

(e) In the event of the failure of the Contractor and the Contracting Officer to agree in whole or in part, as provided in paragraph (d), as to the amounts with respect to costs and fee, or as to the amount of the fee, to be paid to the Contractor in connection with the termination of work pursuant to this clause, the Contracting Officer shall, subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall pay to the Contractor the amount determined as follows:

(1) If the settlement includes cost and fee--

(i) There shall be included therein all costs and expenses reimbursable in accordance with this contract, not previously paid to the Contractor for the performance of this contract prior to the effective date of the Notice of Termination, and such of these costs as may continue for a reasonable time thereafter with the approval of or as directed by the Contracting Officer: Provided, however, That the Contractor shall proceed as rapidly as practicable to discontinue such costs;

(ii) There shall be included therein so far as not included under (i) above, the cost of settling and paying claims arising out of the termination of work under subcontracts or orders, as provided in paragraph (b)(5) above, which are properly chargeable to the terminated portion of the contract;

(iii) There shall be included therein the reasonable costs of settlement, including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the contract and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of termination inventory: Provided, however, That if the termination is for default of the Contractor there shall not be included any amounts for the preparation of the Contractor's settlement proposal; and

(iv) There shall be included therein a portion of the fee payable under the contract determined as follows--

(A) In the event of the termination of this contract for the convenience of the Government and not for the default of the Contractor, there shall be paid a percentage of the fee equivalent to the percentage of the completion of work contemplated by the contract, but exclusive of subcontract effort included in subcontractors' termination claims, less fee payments previously made hereunder; or

(B) In the event of the termination of this contract for the default of the Contractor, the total fee payable shall be such proportionate part of the fee (or, if this contract calls for articles of different types, of such part of the fee as is reasonably allocable to the type of article under consideration) as the total number of articles delivered to and accepted by the Government bears to the total number of articles of a like kind called for by this contract.

If the amount determined under this subparagraph (1) is less than the total payment theretofore made to the Contractor, the Contractor shall repay to the Government the excess amount.

(2) If the settlement includes only the fee, the amount thereof will be determined in accordance with subparagraph (1)(iv) above.

(f) Costs claimed, agreed to, or determined pursuant to paragraphs (c), (d), and (e) of this clause shall be in accordance with the contract cost principles and procedures in Part 1-15 of the Federal Procurement Regulations (41 CFR 1-15) in effect on the date of this contract.

(g) The Contractor shall have the right of appeal, under the clause of this contract entitled "Disputes," from any determination made by the Contracting Officer under paragraph (c) or (e) above, except that, if the Contractor has failed to submit his claim within the time provided in paragraph (c) above and has failed to request extention of such time, he shall have no such right of appeal. In any case where the Contracting Officer has made a determination of the amount due under paragraph (c) or (e) above, the Government shall pay to the Contractor the following: (1) If there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Contracting Officer, or (2) if an appeal has been taken, the amount finally determined on such appeal.

(h) In arriving at the amount due the Contractor under this clause there shall be deducted (1) all unliquidated advance or other payments theretofore made to the Contractor, applicable to the terminated portion of this contract, (2) any claim which the Government may have against the Contractor in connection with this contract, and (3) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold pursuant to the provisions of this clause and not otherwise recovered by or credited to the Government.

(i) In the event of a partial termination, the portion of the fee which is payable with respect to the work under the continued portion of the contract shall be equitably adjusted by agreement between the Contractor and the Contracting Officer, and such adjustment shall be evidenced by an amendment to this contract.

(j) The Government may from time to time, under such terms and conditions as it may pre-

scribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of the contract whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally determined to be due under this clause, such excess shall be payable by the Contractor to the Government upon demand, together with interest computed at the rate of 6 percent per annum, for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Government: Provided, however, That no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until 10 days after the date of such retention or disposition, or such later date as determined by the Contracting Officer by reason of the circumstances.

(k) The provisions of this clause relating to the fee shall be inapplicable if this contract does not provide for payment of a fee.

40. LISTING OF EMPLOYMENT OPENINGS

(This clause is applicable pursuant to 41 CFR 50-.50 if this contract is for $10,000 or more and will generate 400 or more man-days of employment.)

(a) The Contractor agrees that all employment openings of the Contractor which exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract and including those occurring at an establishment of the Contractor other than the one wherein the contract is being performed but excluding those of independently operated corporate affiliates, shall, to the maximum extent feasible, be offered for listing at an appropriate local office of the State employment service system wherein the opening occurs and to provide such periodic reports to such local office regarding employment openings and hires as may be required.

(b) Listing of employment openings with the employment service system pursuant to this clause shall be made at least concurrently with the use of any other recruitment source or effort and shall involve only the normal obligations which attach to the placing of a bona fide job order but does not require the hiring of any job applicant referred by the employment service system.

(c) The periodic reports required by paragraph (a) of this clause, shall be filed at least quarterly with the appropriate local office or, where the Contractor has more than one establishment in a State, with the central office of that State employment service. Such reports shall indicate for each establishment the number of individuals who were hired during the reporting period and the number of hires who were veterans who served in the Armed Forces on or after August 5, 1964, and who received other than a dishonorable discharge. The Contractor shall maintain copies of the reports submitted until the expiration of 1 year after final payment under the contract, during which time they shall be made available, upon request, for examination by any authorized representatives of the Contracting Officer or of the Secretary of Labor.

(d) Whenever the Contractor becomes contractually bound to the listing provisions of this clause, he shall advise the employment service system in each State wherein he has establishments of the name and location of each such establishment in the State. As long as the Contractor is contractually bound to these provisions and has so advised the State employment service system, there is no need to advise the State system of subsequent contracts. The Contractor may advise the State systems when it is no longer bound by this contract clause.

(e) This clause does not apply (1) to the listing of employment openings which occur outside of the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, and the Virgin Islands, and (2) to contracts with State and local governments.

(f) This clause does not apply to openings which the Contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement. This exclusion does not apply to a particular opening once an employer decides to consider applicants outside of his own organisation or employer-union arrangement for that opening.

(g) As used in this clause:

(1) "All employment openings" includes, but is not limited to, openings which occur in the following job categories: Production and nonproduction; plant and office; laborers and mechanics; supervisory and nonsupervisory; technical; and executive, administrative, and professional openings which are compensated on a salary basis of less than $18,000 per year. This term includes full-time employment, temporary employment of more than 3 days' duration, and part-time employment.

(2) "Appropriate office of the State employment service system" means the local office of the Federal-State national system of public employment offices with assigned responsibility for serving the area of the establishment where the employment opening is to be filled, including the District of Columbia, the Commonwealth of Puerto Rico, Guam, and the Virgin Islands.

(3) "Openings which the Contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement," means employment openings for which no consideration will be given to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) or outside of a special hiring arrangement which is part of the customary and traditional employment relationship which exists between the Contractor and representatives of his employees and includes any openings which the Contractor proposes to fill from regularly established "recall" or "rehire" lists or from union hiring halls.

(4) "Man-day of employment" means any day during which an employee performs more than 1 hour of work.

(h) The Contractor agrees to place this clause (excluding this paragraph (h)) in any subcontract directly under this contract.

41. AUTHORIZATION AND CONSENT

The Government hereby gives its authorization and consent for all use and manufacture of any invention described in and covered by a patent of the United States in the performance of this contract or any part hereof or any amendment hereto or any subcontract hereunder (including any lower-tier subcontract).

GPO 883.118

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON, D.C. 20590

ADDITIONAL GENERAL PROVISIONS FOR COST-REIMBURSEMENT TYPE RESEARCH AND DEVELOPMENT CONTRACTS

(FOR USE WITH DOT P-3 COMMERCIAL ORGANIZATIONS)

Clause No.	Clause Title
42.	PUBLIC POLICY AGAINST DISCRIMINATION ON THE BASIS OF AGE
43.	CONTRACTOR INVENTORY OF GOVERNMENT PROPERTY
44.	USE OF QUESTIONNAIRES OR SURVEY PLANS
45.	ACCESS OF RECORDS AND RIGHT TO AUDIT
46.	LIABILITY FOR VIOLATION OF COPYRIGHT
47.	PAYMENT OF INTEREST ON CONTRACTORS' CLAIMS
48.	RIGHTS IN DATA--TITLE
49.	COST ACCOUNTING STANDARDS
50.	SUBCONTRACTS
51.	SMALL BUSINESS SUBCONTRACTING PROGRAM
52.	NEGOTIATED OVERHEAD RATES (COMMERCIAL ORGANIZATIONS)
53.	EMPLOYMENT OF THE HANDICAPPED
54.	ALTERATIONS IN CONTRACT

July 11, 1974

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON, D.C. 20590

ADDITIONAL GENERAL PROVISIONS FOR COST-REIMBURSEMENT TYPE RESEARCH AND DEVELOPMENT CONTRACTS

(FOR USE WITH DOT P-3 COMMERCIAL ORGANIZATIONS)

42. PUBLIC POLICY AGAINST DISCRIMINATION ON THE BASIS OF AGE

In accordance with Executive Order 11141 dated February 12, 1964, it is the policy of the Executive Branch of the Government that:

(a) contractors and subcontractors engaged in the performance of Federal contracts shall not, in connection with the employment, advancement, or discharge of employees, or in connection with the terms, conditions, or privileges of their employment, discriminate against persons because of their age except upon the basis of a bona fide occupational qualification, retirement plan, or statutory requirement, and

(b) that contractors and subcontractors, or persons acting on their behalf, shall not specify, in solicitations or advertisements for employees to work on Government contracts, a maximum age limit for such employment unless the specified maximum age limit is based upon a bona fide occupational qualification, retirement plan, or statutory requirement.

43. CONTRACTOR INVENTORY OF GOVERNMENT PROPERTY

Title to nonexpendable property/equipment (1) acquired by the contractor and paid for from contract funds or (2) furnished the contractor by the Government shall vest in the Government.

Upon completion or termination of this contract, the contractor shall attach to his final invoice form PR-1329, Contractor Inventory Schedule, listing all such nonexpendable property/equipment as listed above under categories (1) and (2). Each item of such inventory shall contain a statement of its current condition and the original acquisition cost.

Nonexpendable property/equipment shall be disposed of in accordance with written instructions of the Contracting Officer. Direct costs incurred by the contractor in preparing items for shipment and the shipping costs as directed by the contracting officer shall be an allowable item of cost against the funds provided under the terms of the contract.

44. USE OF QUESTIONNAIRES OR SURVEY PLANS

(a) If the performance of this contract requires the solicitation of the same or similar information from ten or more persons other than Federal employees, the contractor shall, prior to use, obtain from the contract manager approval of the use of questionnaire, survey plan, plans for structured interviews and consultations, or other documents which are intended for use in soliciting such information, in accordance with the Federal Reports Act of 1942. The term "structured interview or consultation," is defined as an interview or consultation which follows a predesigned line of questioning which takes approximately the same form for all the respondents being interviewed or consulted.

(b) A plan or report form used by a contractor, subcontractor, or grantee of an agency will not be deemed to be sponsored by the agency if the contract or grant is made for the support of research or for other general purposes and not for the specific purpose of obtaining the information which would be collected through the plan or report form. A contractor, subcontractor, or grantee collecting information from the public on his own initiative in connection with a research or other general-purpose project must not in any way represent that the information is being collected by or for the Federal agency. In the event of a need for information as indicated in this paragraph, the contractor shall obtain prior approval for such a survey from the Contracting Officer.

45. ACCESS OF RECORDS AND RIGHT TO AUDIT

The Contractor agrees that the Secretary or his duly authorized representatives shall, until the expiration of three years after final payment under this contract have access to and the right to examine any books, documents, papers, and records of the Contractor involving transactions related to this contract.

The Contractor agrees to require all subcontractors under this contract, if any, to agree to the "access of records and right to audit" clause for subcontracts in excess of $2,500.

46. LIABILITY FOR VIOLATION OF COPYRIGHT

The Contractor shall indemnify and save and hold harmless the Government, its officers, agents and employees, acting within the scope of their official duties, against any liability, including costs and expenses, (1) for violation of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, performance, use of disposition of any data furnished under this contract, or (2) based upon any libelous or other unlawful matter contained in such data.

47. PAYMENT OF INTEREST ON CONTRACTORS' CLAIMS

(a) If an appeal is filed by the contractor from a final decision of the Contracting Officer under the Disputes clause of this contract, denying a claim arising under the contract, simple interest on the amount of the claim finally determined owed by the Government shall be payable to the Contractor. Such interest shall be at the rate determined by the Secretary of the Treasury pursuant to Public Law 92-41, 85 Stat. 97, from the date the Contractor furnishes to the Contracting Officer his written appeal under the Disputes clause of this contract, to the date of (1) a final judgment by a court of competent jurisdiction, or (2) mailing to the Contractor of a supplemental agreement for execution either confirming completed negotiations between the parties or carrying out a decision of a board of contract appeals.

(b) Notwithstanding (a), above, (1) interest shall be applied only from the date payment was due, if such date is later than the filing of appeal, and (2) interest shall not be paid for any period of time that the Contracting Officer determined the Contractor has unduly delayed in pursuing his remedies before a board of contract appeals or a court of competent jurisdiction.

48. RIGHTS IN DATA--TITLE

(a) The term "subject data" as used herein means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under this contract. The term includes graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to, engineering drawings and associated lists, specifications, standards, process

sheets, manuals, technical reports, catalog item identifications, and related information. The term does not include financial reports, cost analyses, and similar information incidental to contract administration.

(b) All "subject data" first produced in the performance of this contract shall be the sole property of the Government. The Contractor agrees not to assert any rights at common law or equity and not to establish any claim to statutory copyright in such data. Except for his own internal use, the Contractor shall not publish or reproduce such data in whole or in part, or in any manner or form, nor authorize others to do so, without the written consent of the Government until such time as the Government may have released such data to the Public.

(c) The Contractor agrees to grant and does hereby grant to the Government and to its officers, agents and employees acting within the scope of their official duties, a royalty-free, nonexclusive, and irrevocable license throughout the world (1) to publish, translate, reproduce, deliver, perform, use, and dispose of, in any manner, any and all data not first produced or composed in the performance of this contract but which is incorporated in the work furnished under this contract; and (2) to authorize others so to do.

(d) The Contractor shall indemnify and save and hold harmless the Government, its officers, agents and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the Contractor of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, performance, use, or disposition of any data furnished under this contract.

(e) Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(f) Paragraphs (c) and (d) above are not applicable to material furnished to the Contractor by the Government and incorporated in the work furnished under the contract; provided, such incorporated material is identified by the Contractor at the time of delivery of such work.

49. COST ACCOUNTING STANDARDS

(a) Unless the Cost Accounting Standards Board has prescribed rules or regulations exempting the Contractor

or this contract from standards, rules, and regulations promulgated pursuant to 50 U.S.C. App. 2168 (P.L. 91-379, August 15, 1970), the Contractor, in connection with this contract shall:

(1) By submission of a Disclosure Statement, disclose in writing his cost accounting practices as required by regulations of the Cost Accounting Standards Board. The required disclosures must be made prior to contract award unless the Contracting Officer provides a written notice to the Contractor authorizing postaward submission in accordance with regulations of the Cost Accounting Standards Board. The practices disclosed for this contract shall be the same as the practices currently disclosed and applied on all other contracts and subcontracts being performed by the Contractor and which contain this Cost Accounting Standards clause. If the Contractor has marked the Disclosure Statement to indicate that it contains trade secrets and commercial or financial information which is privileged and confidential, the Disclosure Statement will be protected and will not be released outside of the Government.

(2) Follow consistently the cost accounting practices disclosed pursuant to (1), above, in accumulating and reporting contract performance cost data concerning this contract. If any change in disclosed practices is made for the purposes of any contract or subcontract subject to Cost Accounting Standards Board requirements, the change must be applied prospectively to this contract, and the Disclosure Statement must be amended accordingly. If the contract price or cost allowance of this contract is affected by such changes, adjustment shall be made in accordance with subparagraph (a)(4) or (a)(5), below as appropriate.

(3) Comply with all Cost Accounting Standards in effect on the date of award of this contract or if the Contractor has submitted cost or pricing data, on the date of final agreement on price as shown on the Contractor's signed certificate of current cost or pricing data. The Contractor shall also comply with any Cost Accounting Standard which hereafter becomes applicable to a contract or subcontract of the Contractor. Such compliance shall be required prospectively from the date of applicability to such contract or subcontract.

(4)(A) Agree to an equitable adjustment as provided in the Changes clause of this contract if the contract cost is affected by a Disclosure Statement change which the Contractor is required to make pursuant

to (3), above. If the Contractor has not been required to file a Disclosure Statement but is required pursuant to (a)(3), above, to change an established practice, then an equitable adjustment shall similarly be agreed to.

(B) Negotiate with the Contracting Officer to determine the terms and conditions under which any Disclosure Statement change other than changes under (4)(A), above, may be made. A change to a Disclosure Statement may be proposed by either the Government or the Contractor, provided, however, that no agreement may be made under this provision that will increase costs paid by the United States under this contract.

(5) Agree to an adjustment of the contract price or cost allowance, as appropriate, if he or a subcontractor fails to comply with an applicable Cost Accounting Standard or to follow any practice disclosed pursuant to subparagraphs (a)(1) and (a)(2), above, and such failure results in any increased costs paid by the United States. Such adjustment shall provide for recovery of the increased costs to the United States together with interest thereon computed at the rate determined by the Secretary of the Treasury pursuant to P.L. 92-41, 85 Stat. 97, or 7 percent per annum, whichever is less, from the time the payment by the United States was made to the time the adjustment is effected.

(b) If the parties fail to agree whether the Contractor or subcontractor has complied with an applicable Cost Accounting Standard, rule, or regulation of the Cost Accounting Standards Board and as to any cost adjustment demanded by the United States, such failure to agree shall be a dispute concerning a question of fact within the meaning of the Disputes clause of this contract.

(c) The Contractor shall permit any authorized representatives of the head of the agency, the Cost Accounting Standards Board, or the Comptroller General of the United States to examine and make copies of any documents, papers, or records relating to compliance with the requirements of this clause.

(d) The Contractor shall include in all negotiated subcontracts which he enters into the substance of this clause except paragraph (b), and shall require such inclusion in all other subcontracts of any tier, except that this requirement shall apply only to negotiated subcontracts in excess of $100,000 where the price

negotiated is not based on:

(i) Established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(ii) Prices set by law or regulation.

NOTE:

1. Subcontractors shall be required to submit their Disclosure Statements to the Contractor. However, if a subcontractor has previously submitted his Disclosure Statement to a Government Contracting Officer he may satisfy that requirement by certifying to the Contractor the date of such Statement and the address of the Contracting Officer.

2. In any case where a subcontractor determines that the Disclosure Statement information is privileged and confidential and declines to provide it to his Contractor or higher tier subcontractor, the Contractor may authorize direct submission of that subcontractor's Disclosure Statement to the same Government offices to which the Contractor was required to make submission of his Disclosure Statement. Such authorization shall in no way relieve the Contractor of liability as provided in paragraph (a)(5) of this clause. In view of the foregoing and since the contract may be subject to adjustment under this clause by reason of any failure to comply with rules, regulations, and Standards of the Cost Accounting Standards Board in connection with covered subcontracts, it is expected that the Contractor may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the Contractor. However, the inclusion of such a clause and the terms thereof are matters for negotiation and agreement between the Contractor and the subcontractor, provided that they do not conflict with the duties of the Contractor under its contract with the Government. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification to be submitted by his subcontractors.

(e) The terms defined in Sec. 331.2 of Part 331 of Title 4, Code of Federal Regulations (4 CFR 331.2) shall have the same meanings herein. As there defined, "negotiated subcontract" means "any subcontract except a firm fixed-price subcontract made by a Contractor or subcontractor after receiving offers from at least two

firms not associated with each other or such Contractor or subcontractor, providing (1) the solicitation to all competing firms is identical, (2) price is the only consideration in selecting the subcontractor from among the competing firms solicited, and (3) the lowest offer received in compliance with the solicitation from among those solicited is accepted."

50. SUBCONTRACTS

No contract in an amount exceeding $2,500 shall be made by the contractor with any other party for furnishing any of the work or services herein contracted for without the consent, guidance and approval of the contracting officer. Any subcontract hereunder must be annotated "approved" by the contracting officer before it is reimbursable hereunder. This provision will not be taken as requiring the approval of contracts of employment between the contractor and personnel assigned for services thereunder.

51. SMALL BUSINESS SUBCONTRACTING PROGRAM

(a) The Contractor agrees to establish and conduct a small business subcontracting program which will enable small business concerns to be considered fairly as subcontractors and suppliers under this contract. In this connection, the Contractor shall--

(1) Designate a liaison officer who will (i) maintain liaison with the Government on small business matters, (ii) supervise compliance with the Utilization of Small Business Concerns clause, and (iii) administer the Contractor's "Small Business Subcontracting Program."

(2) Provide adequate and timely consideration of the potentialities of small business concerns in all "make-or-buy" decisions.

(3) Assure that small business concerns will have an equitable opportunity to compete for subcontracts, particularly by arranging solicitation, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation of small business concerns. Where the Contractor's lists of potential small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(4) Maintain records showing (i) whether each prospective subcontractor is a small business concern, (ii) procedures which have been adopted to comply with the policies set forth in this clause, and (iii) with respect to the letting of any subcontract (including purchase orders) exceeding $10,000, information substantially as follows:

(A) Whether the award went to large or small business.

(B) Whether less than three or more than two small business firms were solicited.

(C) The reason for nonsolicitation of small business if such was the case.

(D) The reason for small business failure to receive the award if such was the case when small business was solicited.

The records maintained in accordance with (iii) above may be in such form as the Contractor may determine, and the information shall be summarized quarterly and submitted by the purchasing department of each individual plant or division to the Contractor's cognizant small business liaison officer. Such quarterly summaries will be considered to be management records only and need not be submitted routinely to the Government; however, records maintained pursuant to this clause will be kept available for review by the Government until the expiration of 1 year after the award of this contract or for such longer period as may be required by any other clause of this contract or by applicable law or regulation.

(5) Notify the Contracting Officer before soliciting bids or quotations on any subcontract (including purchase orders) in excess of $10,000 if (i) no small business concern is to be solicited, and (ii) the Contracting Officer's consent to the subcontract (or ratification) is required by a "Subcontracts" clause in this contract. Such notice will state the Contractor's reasons for nonsolicitation of small business concerns, and will be given as early in the procurement cycle as possible so that the Contracting Officer may give SBA timely notice to permit SBA a reasonable period to suggest potentially qualified small business concerns through the Contracting Officer. In no case will the procurement action be held up when to do so would, in the Contractor's judgment, delay performance under the contract.

(6) Include the Utilization of Small Business Concerns clause in subcontracts which offer substantial small business subcontracting opportunities.

(7) Cooperate with the Contracting Officer in any studies and surveys of the Contractor's subcontracting procedures and practices that the Contracting Officer may from time to time conduct.

(8) Submit quarterly reports of subcontracting to small business concerns on either Optional Form 61, Participating Large Company on Subcontract Commitments to Small Business Concerns, or such other form as may be specified in the contract. Except as otherwise provided in this contract, the reporting requirements of this small business subcontractors, educational and nonprofit institutions, and contractors or subcontractors for standard commercial items.

(b) A "small business concern" is a concern that meets the pertinent criteria established by the Small Business Administration and set forth in Section 1-1.701 of the Federal Procurement Regulations.

(c) The contractor agrees that, in the event he fails to comply with his contractual obligations concerning the small business subcontracting program, this contract may be terminated, in whole or in part, for default.

(d) The Contractor further agrees to insert, in any subcontract hereunder which may exceed $500,000 and which contains the Utilization of Small Business Concerns clause, provisions which shall conform substantially to the language of this clause, including this paragraph (d), and to notify the Contracting Officer of the names of such subcontracts.

52. NEGOTIATED OVERHEAD RATES (COMMERCIAL ORGANIZATIONS) is amended as follows:

That portion of Clause No. 31 Negotiated Overhead Rates, DOT P-3 June 2, 1972, which reads "Allowable Cost, Fixed Fee and Payment" is deleted and the words "Consideration and Payment" are substituted therefor.

53. EMPLOYMENT OF THE HANDICAPPED

(This clause applies to all nonexempt contracts and subcontracts which exceed $2,500 as follows: (1) Part A applies to contracts and subcontracts which provide for performance in less than 90 days, (2) Parts A and B apply to contracts and subcontracts which provide for performance in 90 days or more and the amount of the contract or subcontract is less than $500,000, and (3) Parts A, B, and C apply to contracts and subcontracts which provide for performance in 90 days or more and the amount of the contract or subcontract is $500,000 or more.)

Part A

(a) The contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

(b) The Contractor agrees that, if a handicapped individual files a complaint with the Contractor that he is not complying with the requirements of the Act, he will (1) investigate the complaint and take appropriate action consistent with the requirements of 20 CFR 741.29 and (2) maintain on file for three years, the record regarding the complaint and the actions taken.

(c) The Contractor agrees that, if a handicapped individual files a complaint with the Department of Labor that he has not complied with the requirements of the Act, (1) he will cooperate with the Department in its investigation of the complaint, and (2) he will provide all pertinent information regarding his employment practices with respect to the handicapped.

(d) The Contractor agrees to comply with the rules and regulations of the Secretary of Labor in 20 CFR Ch. VI, Part 741.

(e) In the event of the Contractor's non-compliance with the requirement of this clause, the contract may be terminated or suspended in whole or in part.

(f) This clause shall be included in all subcontracts over $2,500.

Part B

(g) The Contractor agrees (1) to establish an affirmative action program, including appropriate procedures consistent with the guidelines and the rules of the Secretary of Labor, which will provide the affirmative action regarding the employment and advancement of the handicapped required by P.L. 93-112, (2) to publish the program in his employee's or personnel handbook or otherwise distribute a copy to all personnel, (3) to review his program on or before March 31 of each year and to make such changes as may be appropriate, and (4) to designate one of his principal officials to be responsible for the establishment and operation of the program.

(h) The Contractor agrees to permit the examination by appropriate contracting agency officials or the Assistant Secretary for Employment Standards or his designee, of pertinent books, documents, papers and records concerning his employment and advancement of the handicapped.

(i) The Contractor agrees to post in conspicious places, available to employees and applicants for employment, notices in a form to be prescribed by the Assistant Secretary for Employment Standards, provided by the contracting officer stating contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment and the rights and remedies available.

(j) The Contractor will notify each labor union or representative of workers with which he has a collective bargaining agreement or other contract understanding, that the contractor is bound by the terms of Section 503 of the Rehabilitation Act, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.

Part C

(k) The Contractor agrees to submit a copy of his affirmative action program to the Assistant Secretary for Employment Standards within 90 days after the award to him of a contract or subcontract.

(l) The Contractor agrees to submit a summary report to the Assistant Secretary for Employment Standards, by March 31 of each year during performance of the Contract, and by March 31 of the year following completion of the contract, in the form prescribed by the Assistant Secretary, covering employment and complaint experience, accommodations made and all steps taken to effectuate and carry out the commitments set forth in the affirmative action program.

54. ALTERATIONS IN CONTRACT

The following alterations have been made in the provisions of this contract.

Delete the following General Provisions of DOT P-3 dated June 2, 1972, and substitute in lieu thereof the clauses as set forth in Attachment A dated January 1974:

28. AUDIT AND RECORDS

29. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA

30. SUBCONTRACTOR COST AND PRICING DATA

Attachment A
January 1974

GENERAL PROVISIONS

AUDIT

(a) General. The Contracting Officer or his representatives shall have the audit and inspection rights described in the applicable paragraphs (b), (c) and (d) below.

(b) Examination of costs. If this is a cost-reimbursement type, incentive, time and materials, labor hour, or price redeterminable contract, or any combination thereof, the Contractor shall maintain, and the Contracting Officer or his representatives shall have the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred and anticipated to be incurred for the performance of this contract. Such right of examination shall include inspection at all reasonable times of the Contractor's plants, or such parts thereof, as may be engaged in the performance of this contract.

(c) Cost or pricing data. If the Contractor submitted cost or pricing data in connection with the pricing of this contract or any change or modification thereto, unless such pricing was based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation, the Contracting Officer or his representatives who are employees of the United States Government shall have the right to examine all books, records, documents and other data of the Contractor related to the negotiation, pricing or performance of such contract, change or modification, for the purpose of evaluating the accuracy, completeness and currency of the cost or pricing data submitted. Additionally, in the case of pricing any change or modification exceeding $100,000 to formally advertised contracts, the Comptroller General of the United States or his representatives who are employees of the United States Government shall have such rights. The right of examination shall extend to all documents necessary to permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein.

(d) Availability. The materials described in (b) and (c) above, shall be made available at the office of the Contractor, at all reasonable times, for inspection, audit or reproduction, until the expiration of 3 years from the date of final payment under this contract or such lesser time specified in Part 1-20 of the Federal Procurement Regulations

(41 CFR Part 1-20) and for such longer period, if any, as is required by applicable statute, or by other clauses of this contract, or by (1) and (2) below:

(1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for a period of 3 years from the date of any resulting final settlement.

(2) Records which relate to appeals under the "Disputes" clause of this contract, or litigation or the settlement of claims arising out of the performance of this contract, shall be made available until such appeals, litigation, or claims have been disposed of.

(e) The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph (e), in all subcontracts hereunder except altered as necessary for proper identification of the contracting parties and the Contracting Officer under the Government prime contract.

PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA

If any price, including profit or fee, negotiated in connection with this contract or any cost reimbursable under this contract was increased by any significant sums because:

(a) The Contractor furnished cost or pricing data which was not accurate, complete and current as certified in the Contractor's Certificate of Current Cost or Pricing Data;

(b) A subcontractor, pursuant to the clause of this contract entitled "Subcontractor Cost or Pricing Data" or "Subcontractor Cost or Pricing Data--Price Adjustments" or any subcontract clause therein required, furnished cost or pricing data which was not accurate, complete and current as certified in the subcontractor's Certificate of Current Cost or Pricing Data;

(c) A subcontractor or prospective subcontractor furnished cost or pricing data which was required to be accurate, complete and current and to be submitted to support a subcontract cost estimate furnished by the Contractor but which was not accurate, complete and current as of the date certified in the Contractor's Certificate of Current Cost or Pricing Data; or

(d) The Contractor or a subcontractor or prospective subcontractor furnished any data, not within (a), (b) or (c) above, which was not accurate as submitted; the price or cost shall be reduced accordingly and the contract shall be

modified in writing as may be necessary to reflect such reduction. However, any reduction in the contract price due to defective subcontract data of a prospective subcontractor when the subcontract was not subsequently awarded to such subcontractor, will be limited to the amount (plus applicable overhead and profit markup) by which the actual subcontract, or actual cost to the Contractor if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor: Provided, The actual subcontract price was not affected by defective cost or pricing data.

(NOTE: Since the contract is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with certain subcontracts, it is expected that the Contractor may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the Contractor. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data required to be submitted by his lower tier subcontractors.)

SUBCONTRACTOR COST OR PRICING DATA

(a) The Contractor shall require subcontractors hereunder to submit, actually or by specific identification in writing, cost or pricing data under the following circumstances:

(1) Prior to the award of any subcontract the amount of which is expected to exceed $100,000 when entered into;

(2) Prior to the pricing of any subcontract modification which involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed $100,000; except where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(b) The Contractor shall require subcontractors to certify, in substantially the same form as that used in the certificate by the Prime Contractor to the Government, that to the best of their knowledge and belief, the cost and pricing data submitted under (a) above is accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract change or modification.

(c) The Contractor shall insert the substance of this clause including this paragraph (c) in each subcontract hereunder which exceeds $100,000 when entered into except where the price thereof is based on adequate price competi-

tion, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. In each such excepted subcontract hereunder in excess of $100,000, the Contractor shall insert the substance of the following clause:

SUBCONTRACTOR COST OR PRICING DATA--PRICE ADJUSTMENTS

(a) Paragraphs (b) and (c) of this clause shall become operative only with respect to any modification made pursuant to one or more provisions of this contract which involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed $100,000. The requirements of this clause shall be limited to such contract modifications.

(b) The Contractor shall require subcontractors hereunder to submit, actually or by specific identification in writing, cost or pricing data under the following circumstances:

(1) Prior to award of any subcontract, the amount of which is expected to exceed $100,000 when entered into;

(2) Prior to the pricing of any subcontract modification which involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed $100,000; except where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(c) The Contractor shall require subcontractors to certify, in substantially the same form as that used in the certificate by the Prime Contractor to the Government, that to the best of their knowledge and belief the cost and pricing data submitted under (b) above is accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract change or modification.

(d) The Contractor shall insert the substance of this clause including this paragraph (d) in each subcontract hereunder which exceeds $100,000 when entered into.

SUBCONTRACTOR COST OR PRICING DATA--PRICE ADJUSTMENTS

(a) Paragraphs (b) and (c) of this clause shall become operative only with respect to any modification made pursuant to one or more provisions of this contract which involves aggregate increases and/or decreases in costs plus applicable

profits expected to exceed $100,000. The requirements of this clause shall be limited to such modifications.

(b) The Contractor shall require subcontractors hereunder to submit cost or pricing data under the following circumstances:

(1) Prior to the award of any subcontract the amount of which is expected to exceed $100,000 when entered into;

(2) Prior to the pricing of any subcontract modification which involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed $100,000; except where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(c) The Contractor shall require subcontractors to certify that to the best of their knowledge and belief the cost or pricing data submitted under (b) above is accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract change or modification.

(d) The Contractor shall insert the substance of this clause including this paragraph (d) in each subcontract which exceeds $100,000.

PATENT RIGHTS (DEFERRED)

(a) Definitions:

(1) "Subject Invention" means any invention or discovery of the Contractor conceived or first actually reduced to practice in the course of or under this contract, and includes any art, method, process, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the Patent Laws of the United States of America or any foreign country.

(2) "Contract" means any contract, agreement, grant, or other arrangement, or subcontract entered into with or for the benefit of the Government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(3) "States and domestic municipal governments" means the States of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, the Trust Territory of the Pacific Islands, and any political subdivision and agencies thereof.

(4) "Government agency" includes an executive department, independent commission, board, office, agency, administration, authority, Government corporation, or other Government establishment of the executive branch of the Government of the United States of America.

(5) "To the point of practical application" means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine and under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(b) Allocation of principal rights.

(1) Assignment to the Government. After a Subject Invention is identified, the Contractor agrees to assign to the Government the entire right, title, and interest therein throughout the world except to the extent that greater rights are retained by the Contractor under paragraph (b)(2) of this clause.

(2) Greater rights determinations. The Contractor, or the employee-inventor with authorization of the Contractor, may retain greater rights than the nonexclusive license provided in paragraph (d) of this clause in accordance with the procedure and criteria of 41 CFR 1-9.109-6. A request for a determination of whether the Contractor or the employee-inventor is entitled to retain such greater rights must be submitted to the Contracting Officer at the time of first disclosure of the invention pursuant to paragraph (e)(2)(i) of this clause, or not later than 3 months thereafter or such longer period as may be authorized by the Contracting Officer for good cause shown in writing by the Contractor. The information to be submitted for a greater rights determination is specified in 41 CFR 1-9.109.6. Each determination of greater rights under this contract normally shall be subject to paragraph (c) of this clause and to the reservations and conditions deemed to be appropriate by the agency.

(c) Minimum rights acquired by the Government.

With respect to each Subject Invention to which the Contractor retains principal or exclusive rights, the Contractor:

(1) Hereby grants to the Government a nonexclusive, nontransferable, paid-up license to make, use, and sell each Subject Invention throughout the world by or on behalf of the Government of the United States (including any Government agency) and States and domestic municipal governments;

(2) Agrees to grant to responsible applicants, upon request of the Government, a license on terms that are reasonable under the circumstances:

(i) Unless the Contractor, his licensee, or his assignee demonstrates to the Government that effective steps have been taken within 3 years after a patent issues on such invention to bring the invention to the point of practical application, or that the invention has been made available for licensing royalty-free or on terms that are reasonable in the circumstances, or can show cause why the principal or exclusive rights should be retained for a further period of time; or

(ii) To the extent that the invention is required for public use by government regulations or as may be necessary to fulfill public health, safety or welfare needs, or for other public purposes stipulated in this contract;

(3) Shall submit written reports at reasonable intervals upon request of the Government during the term of the patent on the Subject Invention regarding:

(i) The commercial use that is being made or is intended to be made of the invention; and

(ii) The steps taken by the Contractor or his transferee to bring the invention to the point of practical application or to make the invention available for licensing;

(4) Agrees to refund any amounts received as royalty charges on any Subject Invention in procurements for or on behalf of the Government and to provide for that refund in any instrument transferring rights to any party in the invention; and

(5) Agrees to provide for the Government's paid-up license pursuant to paragraph (c)(1) of this clause in any instrument transferring rights in a Subject Invention and to provide for the granting of licenses as required by paragraph (c)(3) of this clause whenever the instrument transfers principal or exclusive rights in any Subject Invention.

Nothing contained in this paragraph (c) shall be deemed to grant to the Government any rights with respect to any invention other than a Subject Invention.

(d) Minimum rights to the Contractor.

(1) The Contractor reserves a revocable, nonexclusive, royalty-free license in each patent application filed in any country on a Subject Invention and any resulting patent in which the Government acquires title. The license shall extend to the Contractor's domestic subsidiaries and affiliates, if any, within the corporate structure of which the Contractor is a part and shall include the right to grant sublicenses of the same scope to the extent the Contractor was legally obligated to do so at the time the contract was awarded. The license shall be transferable only with approval of the agency except when transferred to the successor of that part of the Contractor s business to which the invention pertains.

(2) The Contractor's nonexclusive domestic license retained pursuant to paragraph (d)(1) of this clause may be revoked or modified by the agency to the extent necessary to achieve expeditious practical application of the Subject Invention under 41 CFR 101-4.103-3 pursuant to an application for exclusive license submitted in accordance with 41 CFR 101-4.104-3. This license shall not be revoked in that field of use and/or the geographical areas in which the Contractor has brought the invention to the point of practical application and continues to make the benefits of the invention reasonably accessible to the public. The Contractor's nonexclusive license in any foreign country reserved pursuant to paragraph (d)(1) of this clause may be revoked or modified at the discretion of the agency to the extent the Contractor or his domestic subsidiaries or affiliates have failed to achieve the practical application of the invention in that foreign country.

(3) Before modification or revocation of the license, pursuant to paragraph (d)(2) of this clause, the agency shall furnish the Contractor a written notice of its intention to modify or revoke the license, and the Contractor shall be allowed 30 days (or such longer period as may be authorized by the agency for good cause shown in writing by the Contractor) after the notice to show cause why the license should not be modified or revoked. The Contractor shall have the right to appeal, in accordance with procedures prescribed by the agency, any decision concerning the modification or revocation of his license.

(e) Invention, identification, disclosures, and reports.

(1) The Contractor shall establish and maintain active and effective procedures to ensure that Subject Inventions are promptly identified and timely disclosed. These procedures shall include the maintenance of laboratory notebooks or equivalent records and any other records that are reasonably necessary to document the conception and/or the

first actual reduction to practice of Subject Inventions, and records which show that the procedures for identifying and disclosing the inventions are followed. Upon request, the Contractor shall furnish the Contracting Officer a description of these procedures so that he may evaluate and determine their effectiveness.

(2) The Contractor shall furnish the Contracting Officer:

(i) A complete technical disclosure for each Subject Invention within 6 months after conception or first actual reduction to practice whichever occurs first in the course of or under the contract, but in any event prior to any on sale, public use, or publication of such invention known to the Contractor. The disclosure shall identify the contract and inventor and shall be sufficiently complete in technical detail and appropriately illustrated by sketch or diagram to convey to one skilled in the art to which the invention pertains a clear understanding of the nature, purpose, operation, and, to the extent known, the physical, chemical, biological, or electrical characteristics of the invention;

(ii) Interim reports[1] at least every 12 months from the date of the contract listing Subject Inventions for that period and certifying that:

(A) The Contractor's procedures for identifying and disclosing Subject Inventions as required by this paragraph (e) have been followed throughout the reporting period; and

(B) All Subject Inventions have been disclosed or that there are no such inventions; and

(iii) A final report[1] within 3 months after completion of the contract work, listing all Subject Inventions or certifying that there were no such inventions.

(3) The Contractor shall obtain patent agreements to effectuate the provisions of this clause from all persons in his employ who perform any part of the work under this contract except nontechnical personnel, such as clerical employees and manual laborers.

(4) The Contractor agrees that the Government may duplicate and disclose Subject Invention disclosures and all other reports and papers furnished or required to be furnished pursuant to this clause.

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[1] Agency may specify form

(f) Forfeiture of rights in unreported Subject Inventions.

(1) The Contractor shall forfeit to the Government all rights in any Subject Invention which he fails to disclose to the Contracting Officer within 6 months after the time he:

(i) Files or causes to be filed a United States or foreign application thereon; or

(ii) Submits the final report required by paragraph (e)(2)(iii) of this clause, whichever is later.

(2) However, the Contractor shall not forfeit rights in a Subject Invention if, within the time specified in (1)(i) or (1)(ii) of this paragraph (f), the Contractor:

(i) Prepared a written decision based upon a review of the record that the invention was neither conceived nor first actually reduced to practice in the course of or under the contract; or

(ii) Contending that the invention is not a Subject Invention, he nevertheless discloses the invention and all facts pertinent to his contention to the Contracting Officer; or

(iii) Establishes that the failure to disclose did not result from his fault or negligence.

(3) Pending written assignment of the patent applications and patents on a Subject Invention determined by the Contracting Officer to be forfeited (such determination to be a final decision under the Disputes Clause), the Contractor shall be deemed to hold the invention and the patent applications and patents pertaining thereto in trust for the Government. The forfeiture provision of this paragraph (f) shall be in addition to and shall not supersede other rights and remedies which the Government may have with respect to Subject Inventions.

(g) Examination of records relating to inventions.

(1) The Contracting Officer or his authorized representative until the expiration of 3 years after final payment under this contract shall have the right to examine any books (including laboratory notebooks), records, documents, and other supporting data of the Contractor which the Contracting Officer reasonably deems pertinent to the discovery or identification of Subject Inventions if the Contractor refuses or the requirements of this clause.

(2) The Contracting Officer shall have the right to review all books (including laboratory notebooks), records and documents of the Contractor relating to the conception or first actual reduction to

practice of inventions in the same field of technology as the work under this contract to determine whether any such inventions are Subject Interventions if the Contractor refuses or fails to:

(i) Establish the procedures of paragraph (e)(1) of this clause; or

(ii) Maintain and follow such procedures; or

(iii) Correct or eliminate any material deficiency in the procedures within thirty (30) days after the Contracting Officer notifies the Contract of such a deficiency.

(h) Withholding of payment (Not applicable to Subcontracts).

(1) Any time before final payment of the amount of this contract, the Contracting Officer may, if he deems such action warranted, withhold payment until a reserve not exceed $50,000 or 5 percent of the amount of this contract, whichever is less, shall have been set aside if in his opinion the Contractor fails to:

(i) Establish, maintain, and follow effective procedures for identifying and disclosing Subject Inventions pursuant to paragraph (e)(1) of this clause; or

(ii) Disclose any Subject Invention pursuant to paragraph (e)(2)(i) of this clause; or

(iii) Deliver acceptable interim reports pursuant to paragraph (a)(2)(ii) of this clause; or

(iv) Provide the information regarding subcontracts pursuant to paragraph (i)(5) of this clause.

The reserve or balance shall be withheld until the Contracting Officer has determined that the Contractor has rectified whatever deficiencies exist and has delivered all reports, disclosures, and other information required by this clause.

(2) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer all disclosures of Subject Inventions required by paragraph (e)(2)(i) of this clause, and an acceptable final report pursuant to (e)(2)(iii) of this clause.

(3) The Contracting Officer may, in his discretion, decrease or increase the sums withheld up to the maximum authorized above. If the Contractor is a nonprofit organization the maximum amount that may be withheld under this paragraph shall not exceed $50,000 or 1 percent of the amount of this contract whichever is less. No amount shall be withheld under other provisions of the contract. The withholding of any amount or subsequent payment thereof shall not be construed as a waiver of any rights accruing to the Government under this contract.

(i) Subcontracts.

(1) For the purpose of this paragraph the term "Contractor" means the party awarding a subcontract and the term "Subcontractor" means the party being awarded a subcontract, regardless of tier.

(2) Unless otherwise authorized or directed by the Government Contracting Officer, the Contractor shall include this Patent Rights clause modified to identify the parties in any subcontract hereunder if a purpose of the subcontract is the conduct of experimental, developmental, or research work. In the event of refusal by a Subcontractor to accept this clause, or if in the opinion of the Contractor this clause is inconsistent with the policy set forth in 41 CFR 1-9.107-3, the Contractor:

(i) Shall promptly submit a written notice to the Government Contracting Officer setting forth reasons for the Subcontractor's refusal and other pertinent information which may expedite disposition of the matter; and

(ii) Shall not proceed with the subcontract without the written authorization of the Government Contracting Officer.

(3) The Contractor shall not, in any subcontract or by using a subcontract as consideration therefor, acquire any rights in his Subcontractor's Subject Invention for his own use (as distinguished from such rights as may be required solely to fulfill his contract obligations to the Government in the performance of this contract).

(4) All invention disclosures, reports, instruments, and other information required to be furnished by the Subcontractor to the Government Contracting Officer under the provisions of a Patent Rights clause in any subcontract hereunder may, in the discretion of the Government Contracting Officer, be furnished to the Contractor for transmission to the Government Contracting Officer.

(5) The Contractor shall promptly notify the Government Contracting Officer in writing upon the award of any subcontract containing a Patent Rights clause by identifying the Subcontractor, the work to be performed under the subcontract, and the dates of award and estimated completion. Upon request of the Government Contracting Officer, the Contractor shall furnish a copy of the subcontract. If there are no subcontracts containing Patent Rights Clauses, a negative report shall be included in the final report submitted pursuant to paragraph (e)(2)(iii) of this clause.

(6) The Contractor shall identify all Subject Inventions of the Subcontractor of which he acquires knowledge in the performance of this contract and shall notify the Government Contracting Officer promptly upon the identification of the inventions.

(7) It is understood that the Government is a third party beneficiary of any subcontract clause granting rights to the Government in Subject Inventions, and the Contractor hereby assigns to the Government all rights that he would have to enforce the Subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. The Contractor shall not be obligated to enforce the agreements of any Subcontractor hereunder relating to the obligations of the Subcontractor to the Government in regard to Subject Inventions.

DOT-TST-72-1

FORMAT AND DISTRIBUTION REQUIREMENTS FOR DOT SCIENTIFIC AND TECHNICAL REPORTS

SEPTEMBER 1972

DEPARTMENT OF TRANSPORTATION
Office of Assistant Secretary for
Systems Development and Technology
Washington, D. C. 20590

FORMAT AND DISTRIBUTION REQUIREMENTS FOR DOT SCIENTIFIC AND TECHNICAL REPORTS

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FORMAT AND DISTRIBUTION REQUIREMENTS FOR DOT SCIENTIFIC AND TECHNICAL REPORTS

1. PURPOSE. This document establishes format and distribution requirements for scientific and technical reports prepared by or for the Department of Transportation. The purposes of this document are to aid in the interchange of scientific and technical information and to reduce the costs of preparing, storing, retrieving, reproducing, and distributing scientific and technical reports.

2. FORMS OF REPORTS. This document applies to reports furnished in the following forms:

Manuscript:	Text and illustrations assembled for review and editing.
Reproducible copy:	Text and illustrations ready for reproduction.
Reproduced copy:	Reports duplicated or printed for distribution; also referred to as paper copy (PC).
Microform:	Reports produced in miniature on film (MF).

3. EXCLUDED DOCUMENTS. This document does not apply to staff studies, letter reports, technical or training manuals, catalogs, administrative or fiscal reports, or journal article manuscripts, preprints or reprints submitted as technical reports, and NTSB accident reports and studies. However, if such documents are distributed to the National Technical Information Service, Springfield, Virginia 22151, the Technical Report Documentation Page must be a part of each copy.

4. REFERENCES.

a. Federal Council for Science and Technology, Committee on Scientific and Technical Information. Guidelines to Format Standards for Scientific and Technical Reports Prepared by or for the Federal Government, PB 180 600, December 1968; Federal Microfiche Standards, PB 167 630, August 1965; and Standard for Descriptive Cataloging of Government Scientific and Technical Reports, PB 173 314, October 1966. Available from National Technical Information Service, Springfield, Virginia 22151. Price: $3.00 paper copy. $.95 microfiche copy.

b. U.S. Congress Joint Committee on Printing. Current Government Printing and Binding Regulations. Available from the Joint Committee on Printing, U.S. Congress, Committee Room S-151, U.S. Capitol, Washington, D.C. 20510.

c. U.S. Government Printing Office. Style Manual (latest edition). Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price: $3.00 (1967 edition).

d. Department of Defense/Engineers Joint Council. Thesaurus of Engineering and Scientific Terms, 1967, Engineers Joint Council, 345 East 47th Street, N.Y., N.Y. 10017. Price: $19.50.

e. Other references shall be as specified by the sponsoring agency.

5. DEFINITIONS.

a. Sponsoring Agency. The organizational element having program responsibility for scientific or technical effort. A public body (state, city, commission, etc.) also may be a sponsoring agency in cooperation with a DOT operating element.

b. Performing Organization. The DOT element (either Headquarters, field or laboratory) contractor, grantee or recipient of DOT R&D funds reporting specific scientific or technical research findings resulting from investigations, demonstrations, tests or experiments.

c. Interim Report. An Interim Report is issued during the course of a project etc., or a major part thereof, to reflect completion of a specific phase of a project assignment, etc. This method of reporting also can be used where periodic report of progress is of vital interest to the transportation community at large. Interim reporting, for example, can be the communications medium for early reporting under a project etc., of considerable duration or relative complexity.

d. Final Report. A Final Report is issued at the completion of a project, or a major portion thereof, to signify the accomplishment and formal "close-out" of a project assignment, etc.

e. Transportation Research Activity Information Service (TRAIS). TRAIS is an R&D management information system in the Office of the Secretary of Transportation, which acquires, stores, and retrieves information on R&D plans, budgets, activities, and results of DOT R&D programs.

6. REQUIREMENTS. DOT sponsored scientific and technical reports shall conform to the requirements of DOT-TST-72-1, the references cited in (4) above, security regulations and further specifications of the sponsoring element.

7. LEGAL CONSIDERATIONS. The Government may be subject to liability for misuse of the literary or intellectual property (patents, trademarks, "proprietary information") of others. To ensure that technical reports can receive the widest possible dissemination, report writers and editors should observe the following guidelines:

a. Copyright. No copyrighted material may be incorporated in a report unless written permission of the copyright owner has been obtained. Prior use of copyrighted material in another Government publication does not necessarily constitute permission to use it in a DOT publication. Where permission has been obtained and the material is used in a report, it shall be identified by a statement substantially as follows:

> "Reprinted from (title of publication) by (name of author) by permission of (name of copyright owner). Year of first publication_____."

b. Courtesy requires that acknowledgment or credit be given (by footnote, bibliographic reference, or a statement in the text) for the use of the material contributed or assistance rendered by someone else though no copyright notice is involved.

c. Unpublished work may be protected under common law or equity even though there is no copyright notice. Problems relating to the protection given to unpublished work will be referred to the Office of the General Counsel.

d. Privately Owned Information. To avoid restriction on availability of reports, every effort should be made to avoid the use of proprietary information accepted by the Government for limited purposes. Such proprietary information will be used only if it is essential to the understanding of a report and only after approval by the Office of the General Counsel. Reports containing such proprietary information will bear a statement restricting availability and handling, as required (Paragraph 8b(9)).

e. Data Use Restriction. In the event that the Contractor furnishes any information or data which the Contractor considers to be proprietary under the terms of the contract, the Contractor shall affix the following use restriction legend to such proprietary data, shall mark such data with the number of the prime contract, and subcontract, if applicable; and shall deliver such proprietary data directly to the Government. No other legend is authorized and the Government will thereafter treat the data in accordance with such legend.

"DATA USE RESTRICTION"

These data, furnished under U.S. Government Contract No._____, may be duplicated and used by the Government with the express limitations that the data may not be disclosed outside the Government, nor be used for purposes of manufacture, without prior permission of the contractor. These restrictions do not limit the Government's rights to use or disclose any data obtained from another source without restriction. This legend shall be marked on any reproduction of these data in whole or in part."

f. Trademarks. The term "trademark" includes any word name, symbol, device or any combination thereof, adopted and used by a manufacturer or merchant to identify his goods and distinguish them from those manufactured or sold by others. It is improper to use a "trademark" to identify goods not manufactured or sold by the owner of a trademark or his licensee. In general the use of trademarks is discouraged. Where feasible, goods should be identified by a type designation or a structural feature that distinguishes them from other goods.

g. Trade Names and Manufacturers' Names. Under Section 522 of Title 5, United States Code, as implemented by DOT Regulation, Part 7, Public Availability of Information, effective 4 July 1967, many factual reports, which once were not available to the public, may be obtained by anyone who wants them. Particularly to be avoided is the appearance of endorsing or favoring a commerical product, commodity, or service. Therefore, unless the report will not contain meaningful information without them, trade names or the names of manufacturers will not be given.

The use of trade names or manufacturers' names in a report will be specifically brought to the attention of the reviewing office before the report is approved. Such reports shall contain the following notice on the inside front cover (no border required):

> **NOTICE**
>
> The United States Government does not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the object of this report.

8. FORMAT.

a. Order of Elements. When some or all of the following elements are appropriate for a report, they will be included and the standard order will be as follows:

	Front cover
	Inside front cover
Front matter	Technical report documentation page
	Preface
	Table of contents
	List of illustrations
	List of tables
	List of abbreviations and symbols
Body of report	Introduction
	Main text
	Conclusions
	Recommendations
Reference material	Appendixes
	Glossary of terms
	References
	Bibliography
	Index
	Back cover

GROUP I

Report No. CG-724104.004

DOT-TST-72-1
September 1972

GROUP II

Title

REMOTE SENSING OF OIL SLICKS

Subtitle (if any)

Author(s)

John R. Doe

DOT insignia

Date

SEPTEMBER 1972

FINAL REPORT

Type of report

Distribution statement

Document is available to the public through the National Technical Information Service, Springfield, Virginia 22151

GROUP III

DOT Operating element

DOT headquarters element and address

Prepared for

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD
Office of Research and Development
Washington, D.C. 20590

Figure 1. Sample Front Cover

b. Front Cover.

(1) Outside Front Cover. Either self covers (of the same paper as the text) or separate covers (of different paper than the text) are required for all reports except those furnished in manuscript form. Include on the cover the information shown in groupings plus special markings (such as security classification and distribution limitations) specified by the sponsoring agency. Recommended group related items are shown in Figure 1.

(2) Report Number. Each report shall carry a unique alphanumeric designation provided by the sponsoring element (for example, CG-714104.004; FAA-RD-72-1; or FHWA-PA-RD-72 for state-sponsored report in cooperation with DOT operating element). If none has been assigned, use an alphanumeric designation established by the performing organization (for example, TSC-SA-72-2, MIT-R-71-8737-1); or an alphanumeric designation derived from the contract or grant number (for example, FA71WA-8737-1).

(3) Title and Subtitle. Display the title prominently and make it indicate clearly and briefly the subject of the report. Set subtitle, if used, in smaller type or otherwise subordinate it to the main title. When a report is prepared in more than one volume, repeat the primary title and have subtitle identify that specific volume; for example, Volume I, Volume II.

(4) Author(s). Place the author's name on the front cover only if the report was written by him/her to describe specific or technical research findings resulting from investigation, tests, or experiments he/she conducted. The author's name shall be subordinated in appropriately smaller type than the title. Give the name(s) of the author(s) in conventional order (for example, John R. Doe, or if author prefers, J. Robert Doe).

(5) Performing Organization Name and Address. Regulations of the Joint Committee on Printing do not allow for the identification of the performing organization's name and address. This information will not be printed on the cover.

(6) DOT Insignia. Place the DOT insignia on all reports as shown in Figure 1. In cases where a public body (state, city, commission, university, etc.) is a sponsoring agency, the DOT insignia may be deleted and appropriate public body substitution made.

(7) Date. Each report shall carry a date. The sponsoring element may specify the basis for dating. If it does not, the author will provide a date and indicate the basis on which it was selected (for example, date of issue, date of approval, date of preparation, etc.).

(8) Type of Report and Period Covered. Indicate interim, final, etc., and if applicable, dates covered.

(9) Distribution Statement. Each DOT sponsoring element shall assign a distribution statement, which is placed on the front cover and printed on all copies. The statement that appears on the cover must also appear in Block 18 of the Technical Report Documentation Page. Use one of the following as appropriate:

(a) Document is available to the public through the National Technical Information Service, Springfield, Virginia 22151.

(b) Approved for U.S. Government only. This document is exempted from public availability because (fill in reason). Transmittal of this document outside the U.S. Government must have prior approval of the (fill in DOT sponsoring element).

(c) Approved for (fill in DOT sponsoring element) only. This document is exempted from public availability because (fill in reason). Transmittal of this document outside the (fill in sponsoring element) Department of Transportation must have prior approval of the (fill in responsible office).

(10) Sponsoring Agency's Name and Address. Give name, city, state, and zip code. When a public body (state, city, commission, university, etc.) is a sponsoring agency in cooperation with the DOT, grouping will reflect this cooperation, such as:

Prepared for
DEPARTMENT OF HIGHWAYS
Atlanta, GA 30334

in cooperation with
(DOT OPERATING ELEMENT,
Headquarters element, address)

(11) Inside Front Cover. Special notices, such as reproduction, safety precautions, sponsor's disclaimers, and statements of compliance with special regulations are placed on the inside front cover as required by the sponsoring element. Place the following notice on the inside front cover of all DOT reports (no border required).

> NOTICE
>
> This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

c. Front Matter.

(1) Technical Report Documentation Page. Include one completed Technical Report Documentation Page as the first right-hand page after the cover in each report. A model completed page is shown in Figure 2A, with instructions for completing the form given in Figure 2B. Attachment 1 is a reproducible blank form of the documentation page for the author's use. Adequate and accurate completion of this page will assist documentation of a report. This documentation page also may be distributed in lieu of copies of the published report. This form is available from the DOT Distribution Operations Unit, TAD 484.3, for DOT elements and from the Contracting Officers of the sponsoring elements for contractors and grantees.

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
OST-ONA-71-1. V		

4. Title and Subtitle
A STUDY OF THE MAGNITUDE OF TRANSPORTATION NOISE GENERATION AND POTENTIAL ABATEMENT
Volume V - Train System Noise

5. Report Date: November 1971
6. Performing Organization Code:
8. Performing Organization Report No.:

7. Author(s)
Joseph A. Rock, C. Thomas Paine

9. Performing Organization Name and Address
Serendipity, Incorporated
Eastern Operations Division
Suite 701, 2001 Jefferson Davis Hwy.
Arlington, Virginia 22202

10. Work Unit No. (TRAIS): 1224-611
11. Contract or Grant No.: DOT-OS-A9-018

12. Sponsoring Agency Name and Address
Department of Transportation
Office of the Secretary
Office of Noise Abatement
Washington, D.C. 20590

13. Type of Report and Period Covered: Final Report
14. Sponsoring Agency Code:

15. Supplementary Notes

16. Abstract

The noise from an individual vehicle is a function of the physical characteristics of the vehicle, the way in which the vehicle is operated and the construction characteristics of the vehicle's guideway, e.g., rail condition, roadbed supporting structure. Noise reduction at the source can be obtained by altering the vehicle and/or the guideway and by changing the way the vehicle is operated.

Analysis of contemporary transit vehicle noise indicates that the rank order of conventional rail vehicle noise sources is: (1) wheel and rail system, (2) propulsion system and (3) auxiliary equipment.

Noise levels alongside the right-of-way are a function of the vehicle type, its operation, and the configuration of the roadbed and surrounding areas.

For a given vehicle and guideway, the right-of-way configuration has the greatest impact on the sound levels received at a specific wayside location. Rail vehicle wayside noise levels can be reduced by interrupting the sound transmission paths between the vehicle and the receiver. To the extent that this is achieved, rail vehicle wayside noise levels can be reduced in a manner which is similar to that used for highway noise reduction.

17. Key Words	18. Distribution Statement
Noise, Transportation noise, Rail vehicle noise, Surface transportation, Mass transit.	Document is available to the public through the National Technical Information Service, Springfield, Virginia 22151

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
UNCLASSIFIED	UNCLASSIFIED	115	$3.00 PC $ .95 MF

Form DOT F 1700.7 (8-72) Reproduction of completed page authorized

FIGURE 2A. SAMPLE, COMPLETED TECHNICAL REPORT DOCUMENTATION PAGE

Make items 1, 4, 5, 7, 9, 12, and 13 agree with the corresponding information on the report cover. Use all capital letters for main title (item 4). Leave items 2, 6, and 14 blank. Complete the remaining items as follows:

3. Recipient's Catalog No. Reserve for use by report recipient.

8. Performing Organization Report No. Insert if performing organization wishes to assign this number.

10. Work Unit No. (TRAIS). Use the number code from the applicable research and technology resume which uniquely identifies the work unit in the Transportation Research Activity Information Service. For Highway Planning and Research (HP&R) Program reports, include the FCP Code assigned in the study.

11. Contract or Grant No. Insert the number of the contract or grant under which the report was prepared. For Highway Planning and Research (HP&R) Program reports, include also the State study number.

13. Supplementary Notes. Enter information not included elsewhere but useful, such as: Prepared in cooperation with...Translation of (or by)...Presented at conference of...To be published in...

16. Abstract. Include a brief (nof to exceed 200 words) factual summary of the most significant information contained in the report. An abstract should state the purpose, methods, results, and conclusions of the work effort. For the purpose, include a statement of goals (objectives, aims). For methods, include experimental techniques or the means by which the results were obtained. Results (findings) are the most important part of the abstract and selection should be based on one, or several of the following: new and verified events, findings of permanent value, significant findings which contradict previous theories, or findings which the author knows are relevant to a practical problem. Conclusions should deal with the implications of the findings and how they tie in with studies in related fields. Do not repeat title or other items provided on this page. When a report consists of a number of volumes, include the title of each of the other volumes in each abstract.

17. Key Words. Select terms or short phrases that identify the principal subjects covered in the report, and are of sufficiently specific and precise to be used as index entries for cataloging. The sponsoring element may specify that the key words shall conform to standard terminology, such as that given in the Department of Defense/Engineers Joint Council Thesaurus of Engineering and Scientific Terms, or a Thesaurus of Terms established by the sponsoring element.

18. Distribution Statement. Enter one of the authorized statements (Paragraph 8b(9)) used to denote releasability to the public or a limitation on dissemination for reasons other than security of defense information. Refer questions on the statements of the sponsoring element.

19. Security Classification (of report). Note: Reports carrying a security classification will require additional markings giving security and downgrading information as specified by the sponsoring element.

20. Security Classification (of this page). Note: Because this page may be used in preparing announcements, bibliographies, and data banks, it should be unclassified, if possible. If a classification is required, identify the classified items on the page by an appropriate symbol.

21. No. of Pages. Insert the number of pages.

22. Price. Insert the price (paper copy and microfiche copy) set by the National Technical Information Service or the Government Printing Office, if known.

FIGURE 2B. INSTRUCTIONS FOR COMPLETING TECHNICAL REPORT DOCUMENTATION PAGE.

(2) Preface. Among possible uses, a preface may show the relation of the work reported on to associated efforts, give credit for the use of copyrighted material, and acknowledge significant assistance received.

(3) Table of Contents. In the table of contents (not suggested for a report of less than 10 pages), list principal headings as they appear in the report with the page numbers on which the headings occur. Do not list items from the front matter. Start the table of contents on a right-hand page.

(4) List of Illustrations. Furnish a list of illustrations only if it is considered essential. List figure number, legend, and page number of each illustration. Abbreviate lengthy legends.

(5) List of Tables. Furnish a list of tables only if it is considered essential. List table number, caption, and page number of each table. Abbreviate lengthy captions.

(6) List of Abbreviations and Symbols. Define symbols and abbreviations where first introduced in the text. When symbols and abbreviations are numerous, furnish a separate list with definitions.

d. Body of Report.

(1) General. The contents and organization of the body of a report shall be determined by the nature of the work. Start the first section on a right-hand page. This section usually provides background information and work objectives. Succeeding sections describe work procedures, apparatus involved, tests performed, results achieved, and related matters, as appropriate. The terminal sections usually present conclusions and recommendations.

(2) Headings. Headings shall stand out from the text with their relative importance apparent. Typical heading styles are illustrated in Figure 3.

METHODS ← First-order head

Macroplankton ← Second-order head

Third-order head

Sampling—The larger and more sparse macroplankton were sampled .....

METHODS ← *First-order head*

Macroplankton ← *Second-order head*

SAMPLING ← *Third-order head*

The larger and more sparse macroplankton were sampled .....

FUGURE 3. TWO SAMPLES OF HEADINGS. Top example shows standard typewriter headings; bottom example shows headings prepared on composing equipment.

(3) Numbering System. Number headings and paragraphs only when the numbers are needed for clarity.

e. Reference Material.

(1) Appendixes. Start each appendix on a right-hand page. When one or more appendixes are used, designate them Appendix A, Appendix B, etc. Each appendix shall be cited.

(2) Glossary of Terms. Define unusual technical terms where first introduced in the text. When many such terms are used, list them in alphabetical order with definitions in a glossary.

(3) References and Bibliography. Include complete identification of reference on bottom of page where first cited to aid in reading from microform. When references are numerous, they should be repeated in a reference list in the back of a report under "References." Arrange bibliographic entries not cited in the text but furnished as supplementary information under "Bibliography." Present entries in a uniform style which includes authors, titles, sources, identifying numbers, and dates.

(4) Index. When an index is considered essential, make it as complete as the nature of the report and its probable usage requires.

f. Illustrations.

(1) General. Treat illustrations consistently throughout a report. Prepare them so that details and callouts (labels) will be clearly legible after final reproduction. Crop or mask photographs to eliminate insignificant detail. Do not add border frames to outline illustrations or use background tones in line drawings unless they contribute substantially to clarity. For reproducible copy, submit only clean tone or line art and only original photographs (or other types of tone art) rather than screened (halftone) reproductions.

(2) Placement. Locate illustrations near the first text reference made to them except in special situations, such as when a report contains only a few text pages and many illustrations. In such cases, place the illustrations in numerical sequence in the back of the report. It is preferable that illustrations be placed so that they may be viewed without turning the page sideways. If an illustration has to be placed sideways on a page, orient it so that the top of the illustration is at the left side of the page.

(3) Callouts (Labels). So far as practicable, place callouts horizontally, unboxed, and near the item called out, as shown in Figure 4. Make callouts consistent in size and typeface throughout a report. Use a typewriter or type size. Strive for high contrast and readability.

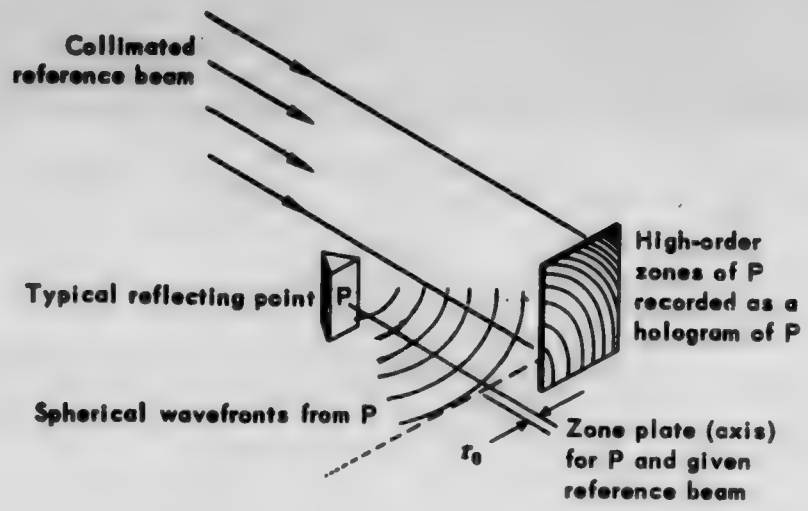
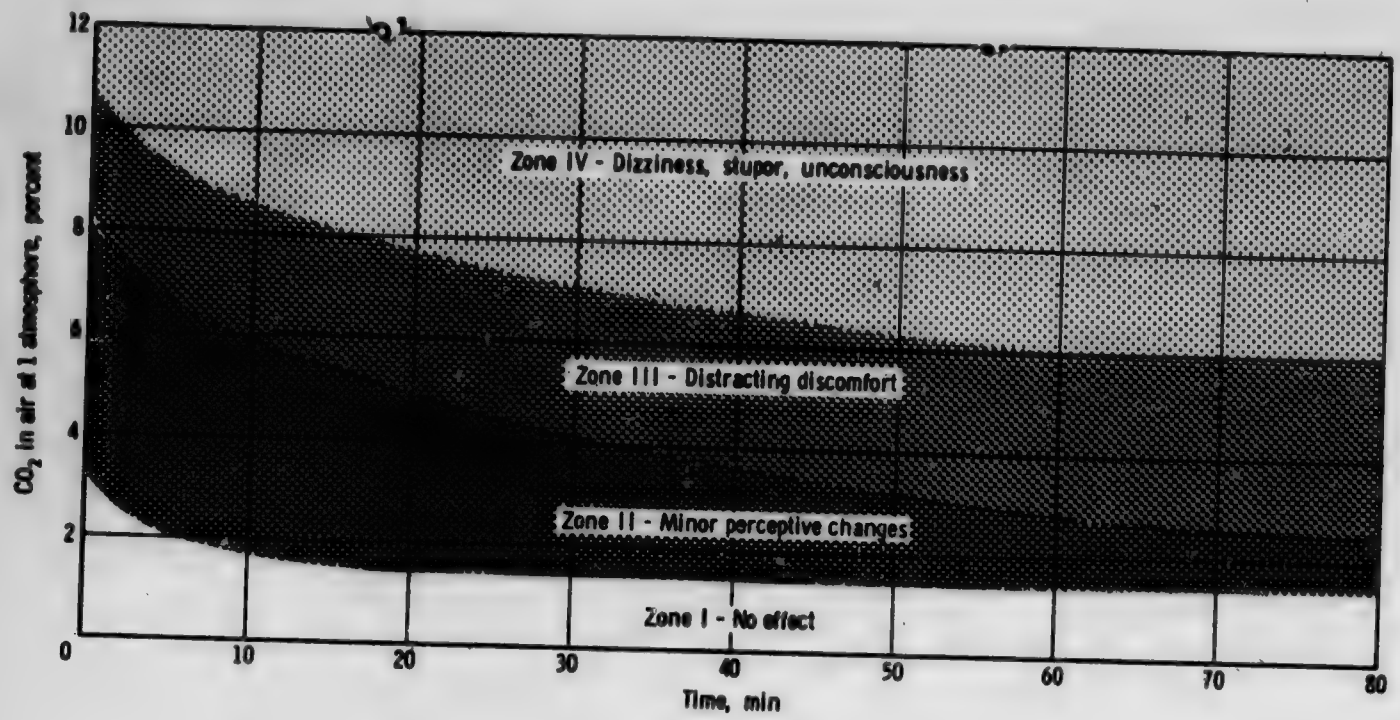

Collimated reference beam
Typical reflecting point P
High-order zones of P recorded as a hologram of P
Spherical wavefronts from P
r_0
Zone plate (axis) for P and given reference beam

FIGURE 4. SAMPLE PLACEMENT OF CALLOUTS (LABELS)

(4) Color. Color must not be used unless specifically authorized by the sponsoring agency. Often screens, crosshatching, reverses, dots, or similar techniques can be used as effective substitutes for color (Figure 5). Refer to Government Printing and Binding Regulation, paragraphs 17-1, 17-2, and 17-3 for general provisions concerning color printing.



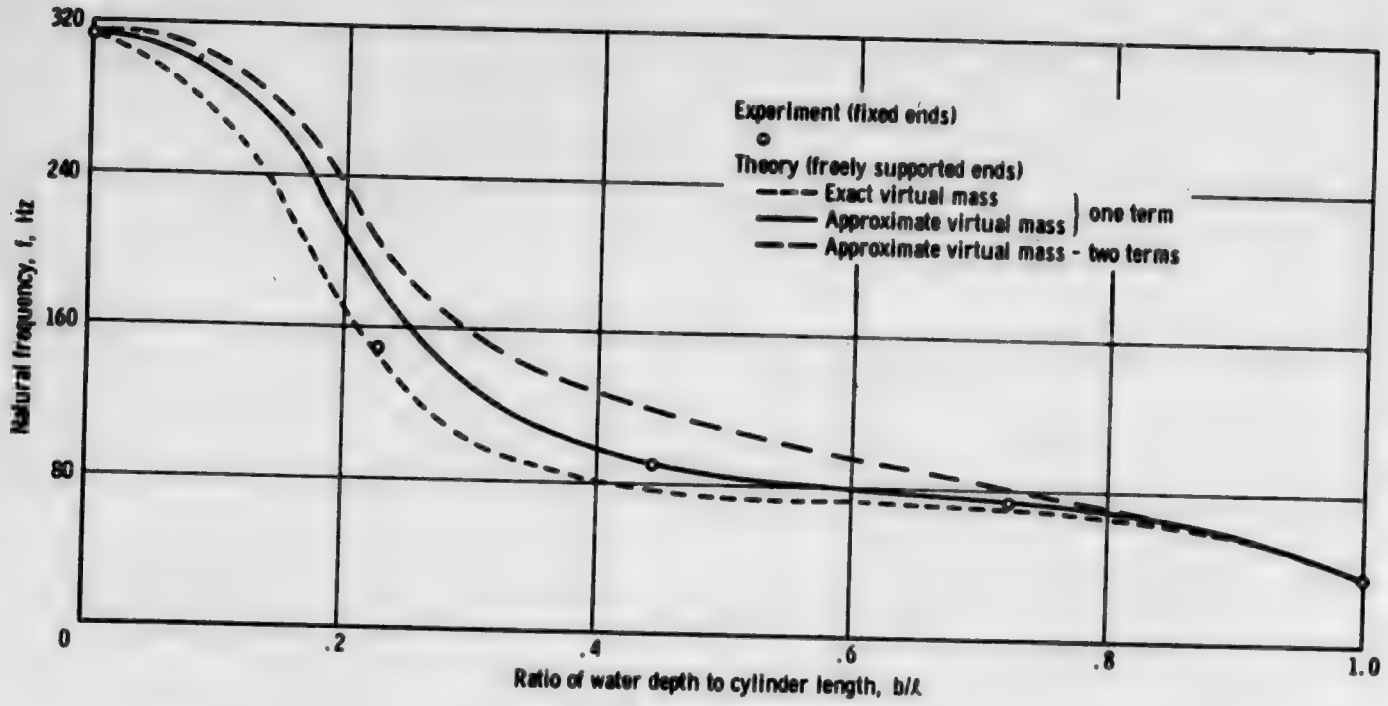


FIGURE 5. SAMPLE, SCREENING (TOP) AND CODING (BOTTOM) USED AS SUBSTITUTES FOR COLOR.

(5) Fold-ins. Wherever possible, avoid the use of oversize illustrations that must be folded. Often a large illustration can be divided to appear on facing pages. Make fold-ins or gate folds begin on a right-hand page.

(6) Numbering. Number illustrations to which reference is made in the text consecutively in Arabic numerals, preceded by the word "Figure," for example, Figure 1, Figure 2, or Figure 1-1, Figure 1-2, Figure 2-1, etc. Number illustrations within appendixes in a manner consistent with the appendix letter, such as Figure A-1, Figure B-2, etc.

(7) Legends. Accompany each illustration, except for self-explanatory sketches, by a descriptive legend. The legend is ordinarily placed under the illustration and follows the figure number.

g. Tables.

(1) General. Tables should be as simple as possible so that the reader can easily grasp the meaning of the data. Use letters and numbers in tables that will be at least 6 point or larger in the final reproduced report. Prepare printout sheets from which electronically tabulated data are directly reproduced so that letters and numbers are sharp and unbroken. A sample table is shown in Figure 6.

TABLE 1.–SHORT-TIME XXXXXXXXXXXXXXXXXXXXXXXX — *Caption*

Boxhead

Temperature, K	Specimen type (a)	Ultimate tensile strength, N/m^2	Elongation between buttonheads, cm	Reduction of area, percent
Footnote reference		Tungsten		
1700	1	2200×10^3	1.57	95
1900	1	1312	1.60	75
2060	1	987	.69	36
2260	1	674	.51	25

[a]Recrystallized at 2370 K for 1/2 hour in vacuum. ← *Footnote*

FIGURE 6. SAMPLE TYPICAL TABLE LAYOUT. For more complete information on tables, see the Government Printing Office Style Manual.

(2) Placement. Locate tables near the first text reference made to them, except in special situations, such as when a report contains only a few text pages and many tables. In such cases, place the tables in numerical sequence in the back of the report. It is preferable that tables be placed so that they may be viewed without turning the page sideways. If a table has to be located sideways on a page, orient it so that the top of the table is at the left side of the page

(3) Headings and Columns. Give applicable unit of measure or degree in the column headings of tables. Do not repeat in the columns. When tables continue on two or more pages, note the continuation and repeat the column headings and rules on each page.

(4) Numbering. Number tables to which reference is made in the text consecutively in Arabic numerals, preceded by the word "Table," for example, Table 1, Table 2, or Table 1-1, Table 1-2, Table 2-1, etc. Number tables within appendixes in a manner consistent with the Appendix letter, such as "Table A-1, Table B-2", etc.

(5) Captions. Give each table, except short ones which run in with the text, a descriptive caption following the table number. Place caption above the table.

h. Equations.

(1) General. Prepare mathematical matter with extreme care. Use machine or transfer-type composition when available. Identify symbols after first use to aid in reading from microform or in a separate list. Make opening and closing parentheses, brackets, and braces the same height as the tallest expression they enclose. Separate numerator from the denominator with a line as long as the longer of the two. Center both numerator and denominator on the line.

(2) Placement. Indent or center a displayed equation in the line immediately following the first text reference made to it. Break equations before an equal, plus, or multiplication sign. Align a group of separate but related equations by the equal signs and indent or center the group as a whole. Short equations not part of a series may be placed in the text rather than displayed.

(3) Numbering. Number equations which are part of a series or which are referred to in the text consecutively in Arabic numerals; for example, (1), (2), or (1-1), (1-2), (2-1), etc. Enclose each number in parentheses at the right margin on the last line of the equation numbers. Number equations within appendixes in a manner consistent with the appendix letter, such as (A-1), (B-2), etc.

i. Distribution. Do not include a distribution list in a published DOT report.

(1) Availability of Published Reports. Information resulting from DOT-sponsored R&D must receive proper dissemination throughout the DOT and the transportation community. Each sponsoring agency is to announce its published reports and their availability from the National Technical Information Service.

(2) Distribution of Published Reports. DOT sponsoring elements will establish a distribution list for each published report. As a minimum requirement such list shall specify 6 copies for the DOT Headquarters Library (TAD-491), and provide for adequate distribution within the DOT sponsoring agency and appropriate Departmental offices (for example, Transportation Systems Center, Cambridge, Massachusetts). When the report is to be made available to the public, the list shall specify at least 12 copies for the National Technical Information Service, Springfield, Virginia 22151.

(3) Distribution of Technical Report Documentation Pages. When the information needs of an addressee can be satisfied by copies of the completed Technical Report Documentation Page, consideration should be given to furnishing documentation pages in lieu of copies of published reports. DOT sponsoring agencies are to ensure that one copy of a completed documentation page of each accepted report, whether freely dissiminated or restricted from public distribution is forwarded to the Office of R&D Plans and Resources, TST-25.

j. Production Composition.

(a) Type Size. Use a minimum 8-point type size or typewriter for the main text of the report.

(b) Typed Copy. Use black ribbon on opaque white paper to type reproducible copy. Camera ready copy shall be typed on one side only.

(c) Line Spacing. Use single or 1½ spacing for reports prepared by typewriter for reproduction, except when extra spacing between lines is necessary to assure clarity of run-in equations, symbols, etc. Use 1½ or double-spacing for manuscripts.

(d) Margins. Use margins of at least 1 inch on all sides of text pages.

(e) Page Numbering. Wherever practicable, number all pages throughout a report consecutively at the bottom center with Arabic numerals. In special cases, number by section or chapter (1-1, 1-2, 2-1, etc.). Odd-numbered pages are right-hand pages and even-numbered pages are left-hand pages.

k. Limitation on Printing. Contractors shall not become prime sources of printing for agencies unless so authorized by the Joint Committee on Printing. See paragraphs 37 and 38, Government Printing and Binding Regulations (listed in paragraph entitled "References"). Duplicating (not printing) shall conform to paragraph 2 of these Regulations. Printing shall not be a preplanned contractual requirement. Contractors shall furnish one reproducible copy of the final approved report within the time specified in the contract. Only clean tone or line art and original photographs and text suitable for camera copy for offset printing shall be submitted.

l. Workmanship. Filled-in or broken letters, illegible text or illustrations (including lettering), or similar imperfections are not acceptable. Only reproduced reports that will be legible in microform are acceptable.

m. Cover Size, Stock, and Ink. Reproduced reports may have separage covers or self covers cut to page size. Use 110-pound index (Government Specification JCP K10), 50-pound antique (JCP L20), 44-pound white ledger (JCP J10), or similar commercial weight paper for separate covers. Use black ink for self covers. Do not use covers with windows.

n. Page Size, Stock, and Ink. Reproduced reports shall be approximately 8 by 10½ inches or 8½ by 11 inches in size. Use black ink on opaque white paper. Use both sides of the sheet to the maximum extent practicable.

o. Binding. Use side-stitching, saddle-stitching, or glue-back binding. Other types of binding require the approval of the sponsoring agency.

p. Decorative Features and Advertising. Do not use advertising display on pages.

9. REVIEW AND ACCEPTANCE. To ensure that DOT technical reports conform to the established standards of format and distribution and to protect the Government interest against possible litigation, all reports shall be reviewed and accepted as follows:

a. Review. Types of reports to be reviewed and criteria for the review will be according to the provisions of the individual work agreements (contract, project plan agreement, grant, etc.). Within 30 days after completion of the technical work related to a contract, grant, or project phase, the performing organization shall submit advance draft copies of the report with a letter of transmittal to the concerned element of the DOT sponsoring organization for review and approval. Such review is for the purpose of assuring that the report is in compliance with the project assignment or contract and in conformity with the format guidelines established by this order.

b. Approval. Approval or critique of reports prepared by DOT elements will be provided performing organizations in writing by the DOT sponsoring organization concerned, within 60 days of receipt of draft copies. For contractor prepared reports, approval will be provided in writing by the contracting officer concerned.

c. Resolution of Conflicts. In the event of a conflict which cannot be resolved between the performer and the sponsoring organization, the matter will be referred to TST-42 for resolution.

d. Waiver of Approval Authority. In cases where the sponsoring organization waives its review and approval authority, such waiver shall be specified in the agreement documentation.

Technical Report Documentation Page

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(In accordance with the provisions of ORS 192.040 through 192.070)

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Title of Record Series: Construction Contracts

Arrangement of Records: Sequential Numbers

Index:

INDEXING: Begins with #8248 cont. Ends with: #8259 #8 4 cont. on Reel 181

FLASH CARDS:

Remarks:

Reel No. 180 Reduction Ration 21 X Project No ___

Camera: Name Bell & Howell Model Tele Master Film 16mm

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I certify that I have on this 5th day of March 19 86 photographed the documents appearing on this roll of film, that they are true copies of documents, found in the record file described above, and that the integrity of the above described record file has been maintained on the film by microfilming each document in the exact order in which it was found in the file, with the exception, if any, of documents omitted because of technical difficulties and/or by error, as indicated on the film in the cross-reference notes or retake certificate.

I further certify that the microfilm on which these documents are recorded was procured as permanent film of the slow burning cellulose ester or polyester type known as safety photographic film, conforming to applicable standards of the American National Standards Institute; and that the processing conforms to the standards for permanent film; and that sample of film processed by this Service are periodically tested.

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